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Winter-Photography in the Selkirks

NEWTON WILLIAM EMMENS

ON looking over some old photographic magazines recently, I noted the suggestion in an April issue, that now that spring was at hand it was time to take down the camera from the shelf on which it had been hibernating all winter, give it a thorough dusting and cleaning and put it in condition to make its annual crop of photographs. I was going to say "pictures", but unfortunately, out of the many thousands of exposures made annually, only a very small percentage can be classed as "pictures", the bulk being merely snapshots absolutely devoid of interest to anyone except the person who made them and any subjects that might be included therein.

But why put the camera away during the winter-months? Surely, there are as many opportunities to obtain pictures of snow-scenes that will give as much pleasure in the making, and to our friends in the viewing, as do our choicest "bits" photographed at other times of the year. Perhaps one of the troubles is that so many snow-photographs are too much on the order of the "soot-and-whitewash" variety, the contrasts being too great and there being an almost total lack of detail, not only in the snow itself, but in the darker objects in the picture. This can be avoided by the use of a suitable filter and by giving the correct exposure.

It has been the writer's good fortune to spend several years in the Selkirk Mountains of British Columbia, a region of scenic grandeur and beauty equalled by few and surpassed by no other place on the North American continent or in Europe. To those whose blood flows freely and who are devotees of the God-of-the-open-air, the call of the hills is as urgent in the depth of winter, when the snow-covered mountains stand out against the deep blue of the sky and the trees look like Fairy-land with their snow-laden branches glistening in the sunlight, as it is in the spring or summer when the beauty of form and color of mountain and forest beckon irresistibly to those who have learned to love the

> Light of the sapphire skies,
> Peace of the silent hills,
> Shelter of the forests, comfort of the grass,
> Music of birds, murmur of little rills,
> Shadow of clouds that swiftly pass,
> And, after showers,
> The smell of flowers
> And of the good brown earth—
> And best of all, along the way, friendship and mirth.
>
> *Henry van Dyke*

In these hills, prospectors' cabins and those of trappers are to be found in many places; sometimes in the valley beside a clear mountain-stream; sometimes precariously perched on a narrow shelf on the steep mountain-side with perhaps a brace against its lower side to prevent the snow in winter crowding it off; perhaps on a "flat" high up among the big trees; or perhaps right on the summit of the mountain, well above timber-line, where the heather and alpine flowers bloom in summer and where it is completely buried by the snow in winter. These cabins are never locked, their owners frequently going away for days and weeks at a time, leaving in them not only their outfits but food as well. Anyone passing that way is heartily welcome to use the cabin; and, if short of food, to cook and eat his fill, but the unwritten law-of-the-hills requires the wayfarer to leave the cabin and its contents in as clean and tidy a condition as he found it, and to replace any wood burned by cutting an equivalent supply, stacking it under the porch or in the cabin where it will be dry and handy for the next person having need of shelter and warmth.

In the Selkirks the snow gets very deep,

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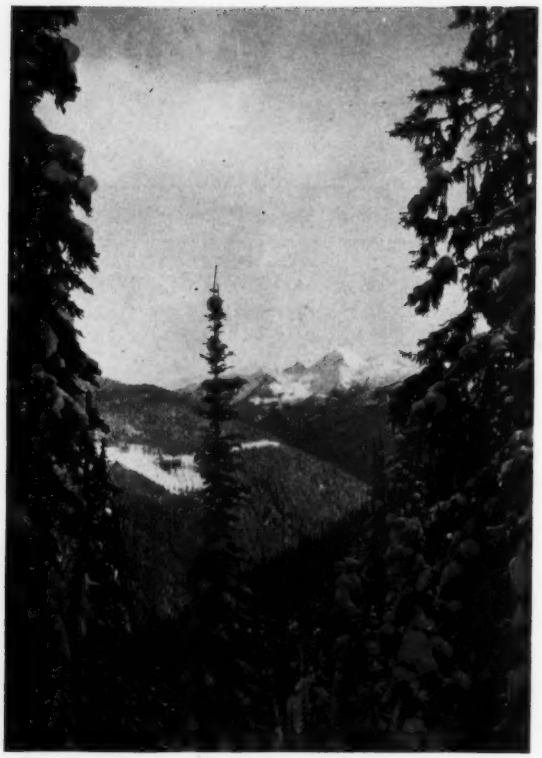

SILVER-CUP PEAK NEWTON W. EMMENS

anywhere from five to thirty feet, depending upon the location and altitude; the snow-fall along certain belts being much greater than along others. It usually lasts from the end of November to the first of the following May in the open valleys and from the middle of October to the end of June in the hills. There is rarely any wind, the snow drapes the trees in a beautiful white mantle, the underbrush is completely buried, and each tree-stump wears a snow-cap that makes it look like a gigantic mushroom.

Outside of the towns and off the roads and main, traveled trails, it is, of course, necessary to use snow-shoes in the winter-time but there is nothing difficult in acquiring the art of using them. To be able, pack on back, to climb through the forest with no underbrush to bother, to one of the many cabins up near timber-line, make it headquarters, and from thence to explore the higher altitudes, going to the summits and looking out over the sea of mountains spread out before one is a joyous experience, and is one to broaden the mind, sink into insignificance the petty trials and tribulations of this work-a-day world, and make one realise the truth of the thought so well expressed by the following lines from Henry van Dyke's poem "The God of the Open Air"—

"By the breadth of the blue that shines in silence o'er me,
By the length of the mountain-lines that stretch before me,
By the height of the cloud that sails, with rest in motion,
Over the plains and the vales to the measureless ocean,
(Oh, how the sight of things that are great enlarges the eyes!)
Lead me out of the narrow life, to the peace of the hills and the skies."

It has been suggested that this heavy snow-

fall does not lend itself to pictorial photography, and that making one's way through the snow-laden forest is more of an undertaking than is warranted by the results attained. The writer has not found this to be the case. It is well, however, to choose the proper time to go on these expeditions with the camera, and not to start out immediately after a fresh, heavy snow-storm, because the newly fallen snow is soft and one's snow-shoes sink in deep enough to make very heavy going. By waiting a couple of days or so, it will be found that the snow has settled sufficiently to afford good traveling, the shoes only sinking in a few inches, and the climb through a veritable fairy-land to some vantage point, from which to watch the clouds and mists on vale and peak slowly disperse as the sun comes up, is a delightful, never to be forgotten experience, amply repaying one for the small amount of exertion required, and affording opportunities of obtaining some very worth-while pictures.

At times, when traversing the forest along the steep mountain-side one comes to places where the snow has slid over a bluff, forming a slope too slippery to walk over and too hard for the snow-shoe to get a good grip on, in such places a shovel comes in very handy to cut a shelf on which to cross but, failing a shovel, which is not part of one's regular equipment, an axe will serve the purpose by cutting foot-holds in the hard snow by means of which the slope can be crossed in safety and comfort, first, of course, having removed the snow-shoes.

When on photographing expeditions, the writer always carries a light axe as it is very useful, not only in cutting out small trees and branches that obstruct the view, which if allowed to remain would spoil the picture, but also in cutting wood to make a fire, should such be required. Some of my readers may be skeptical regarding the practicability of building a fire on the deep snow in the open, but it is easy enough. First pack the snow by tramping it with the snow-shoes where you desire to build the fire, then cut a few sticks one-and-a-half to two inches in diameter and lay them, close together, on the packed snow to make a foundation for the fire, on these stack loosely the smaller sticks and split wood that are to serve as fuel, light it and you will soon have a cosy little fire going. There is no necessity for a big roaring blaze, a small fire that can be easily covered by an ordinary

ST. ELMO CABIN NEWTON W. EMMENS

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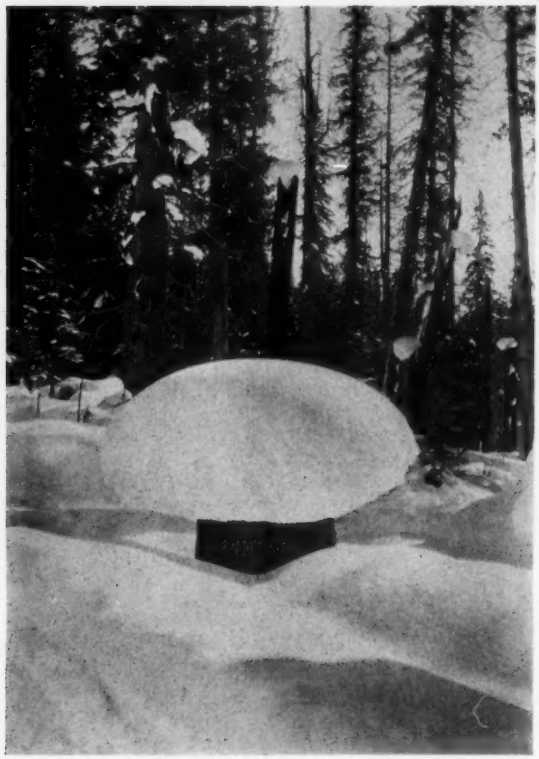

A LARDEAU MUSHROOM NEWTON W. EMMENS

sized dish-pan is quite large enough to boil the "billiken"—the can in which you make your tea or coffee—fry bacon, or get warm by. When done with, always be sure to completely put the fire out, either in winter or in summer, so as to avoid all possible danger to the surrounding woods. Get this habit firmly established. Carelessness and thoughtlessness in not thoroughly putting out camp-fires causes more damage to our forests annually than can be remedied in a hundred years of forest-growth.

In snow-photography the question of proper lighting is of paramount importance, and next to it is the avoidance of a flat, unbroken expanse of snow in the foreground. This latter can be obviated, if there be no shadows to take advantage of, by tramping back and forth a time or two in the direction of the point of interest in the picture, care being taken to avoid aimless wandering that might lead the eye away from that point. The most satisfactory lighting is when the sun throws long shadows across the snow, and it makes little difference from which direction it shines, except from immediately behind the camera or directly into the lens. Where it is desired to include figures that are facing the camera, it is better to avoid direct sunlight because the reflection from the snow is too brilliant for the eyes, causing a strained expression; much more satisfactory results will be obtained on an overcast day or when the sun is obscured by a passing cloud.

The equipment used by the writer in making the photographs presented herewith consisted of a 5 by 7 camera with tripod, rapid rectilinear lens fitted with iris-diaphragm shutter, a three-time and a five-time ray-filter. Premo film-packs were used to make the negatives, and development was done in the tank using the Premo tank powders. Velox paper was used.

THE KING'S HIGHWAY
TROUT MOUNTAIN
NEWTON W. EMMENS

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Along the roads, or where the snow is packed hard, there is, of course, no difficulty in using a tripod; but where the snow is soft and deep it is first necessary to tramp down and pack the snow, with one's snow-shoes, where it is intended to set up the camera, otherwise the legs of the tripod will sink in either too deep or unevenly, thus spoiling the picture.

The writer does not advise the use of such a large camera as a 5 by 7, because of its weight and bulk, except for special work. For general use a smaller, lighter and more compact instrument fitted with an anastigmat lens of F/4.5 or F/6.3 working aperture, a shutter capable of giving exposures of 1/200 of a second, focusing-panel; and, if possible, provided with, not only a rising-and-falling front, but also an adjustment that allows of moving the lens sidewise as well, will be found to fill every requirement. A good tripod, one of the compact, stout wooden ones is best for snow, and a couple of ray-filters, such as the Wratten K-1 and K-2 should also be provided; and, if it is intended to do much photographing of distant objects, such as one mountain-peak from another, a good telephoto attachment fitted to the lens, will be found very useful.

Owing to the brilliancy of the light reflected from the snow it is advisable to use non-halation material for negative-making, and, taking everything into consideration, it would seem that film is about the most satisfactory, particularly the cut panchromatic film. It is also very necessary to provide one's self with a good pair of goggles to protect the eyes, one of the dark amber-colored variety will be found to fill the requirements very nicely, as they are much the same color as the ray-filters, give ample protection to the eyes, and are more satisfactory than either the blue or neutral tinted ones for photographic work; at least, that is the experience of the writer.

For developing, the writer much prefers the tank-method to that of the tray because it is productive of better and more uniform negatives. The important thing is to give the correct exposure and to err on the side of too much time rather than too little. The use of an exposure-meter or calculator is to be recommended, of which there are several good ones available, particularly when making photographs under unaccustomed conditions of light.

Of papers, upon which to make the prints, there is an almost endless variety to choose from and that best suited depends upon the negative, whether it be lacking in contrast, too much contrast, thin or dense, and upon the result desired. But to get the very best results from snow-pictures there is nothing to equal a lantern-slide that has been carefully tinted, because not only does a little color add tremendously to the effectiveness of the picture, but the transparency brings out the detail in the highlights and shadows far better than any printing-paper the writer has ever tried.

THE HAWTHORNS IN SEPTEMBER — DUANE P. HOTCHKISS

HONORABLE MENTION—WILD AND CULTIVATED TREES

Use of Cut-Film in Stereo-Photography

HAROLD D. GRIFFIN

STEREO-PHOTOGRAPHY has a new ally in cut-film, and the amateur who wishes to obtain attractive record-pictures would do well to investigate its possibilities.

No negative is easier to transport. If you are a devotee of the stereo-autochrome—as every stereophotographer should be—you already carry your plateholders with you. Break them into double service. Leave your film-pack adapter and your plates—other than autochrome—behind you and venture forth with a kit of cut-films. Cut-film with its fine grain and variety of emulsions will meet every situation that plates can handle, and do it better. It is non-halation, it is light, and it is unbreakable. The longitudinal scratches often so troublesome with film-packs will be a thing of the past.

Perhaps the first thing to be considered is the matter of weight and compactness. I put my cut-films in discarded autochrome-boxes, and can store in a given space more than three times as many as film-packs, and five times as many as plates. Two dozen extra-thin plates weigh eight times as much as two dozen cut-film negatives packed in an autochrome-box.

Cut-film may be obtained with a variety of emulsions—portrait, ortho and panchromatic—and the super-speed has twice the speed of the film-pack. With the panchromatic—about one-third the speed of the film-pack—the Wratten K-3 filter will give you true color-values on one of the best emulsions for landscape-photography with which I am familiar. This same emulsion will permit the use of the regular autochrome or of the Wratten "G" filter for distance work. The visitor to the Grand Canyon or other places in our West where long vistas need recording, will be saved disappointment by using panchromatic cut-film and a suitable color-filter.

Cut-film is by far the lowest-priced negative obtainable. I use a 45 x 107 mm. stereo-camera and my panchromatic and other cut-film negatives cost me less than $.40 a dozen. Cut-film negatives may be purchased already cut to fit the 45 x 107 mm. camera for $.60 a dozen. But why not cut them yourself and spend the difference? Perhaps your plateholders will take 1¾ x 4¼ inch films without allowing them side play. If so, one dozen 7 x 17 cut-film will give you sixteen dozen 1¾ x 4¼ inch films, or 5 x 7 cut-film will give four dozen. My plateholders are not so accommodating. I purchase 6½ x 8½ cut-film and cut it down to 1 13/16 x 4¼ inches. This takes up all side play and assures pictures with level margins. I trim off the extra 1/16 of an inch after development. Always leave the black paper in contact with the emulsion-side of the film while cutting and packing in the boxes. Panchromatic film should be cut in absolute darkness. This is not a difficult trick to learn with a paper-cutter, and I usually cut all my negatives that way.

My plateholders have a spring at one end to hold the plates perfectly level. Naturally, this spring is worse than useless so far as cut-film is concerned. I eliminate it and obtain a fairly accurate focal plane for the cut-film at the same time by inserting a piece of stiff cardboard 4¼ inches long, about an inch wide, and 1/16 of an inch thick, in the center of the holder.

For filling and changing my plateholders I use a changing-bag. It is easy to tell the emulsion-side of these small sizes of cut-film for it tends to be concave. I find it easier to insert the film in the opposite manner to a plate, that is, put the film under the projecting tabs near the velvet first and then slide in the edge toward the end spring. Be sure this end of the film is down where it belongs and not in the groove reserved for the slide. Be careful not to touch the face of the emulsion more than is necessary. The cardboard will hold the cut-film in a fairly even focal plane.

Development of the cut-film can best be handled in tanks. The Kodak developing-box No. 1, with Kodak cut-film developing-hangers, is perfectly satisfactory, although I use four heavy sheet-iron bread-pans about 8 x 5 x 3 inches that I picked up in a second-hand store for $.10 apiece. I painted them inside and out with Probus chemical-proof enamel, and so I merely need to change my hangers from one to the other for developing, rinsing, fixing and washing. In this way a perpetual round of developing can take place by the time-and-temperature method. It is really surprising how quickly one can adjust oneself to the dark for the development of panchromatic films with no other aid than a radium-dialed Ingersoll, a thermometer and a flashlight covered with "Virida" papers or Wratten safelight papers for panchromatic film. Of course, the red safelight is as bad as no safelight at all, when working with panchromatic emulsions.

The regular 5 x 7 Eastman plate-tank developing-powders are highly satisfactory and will make 64 ozs. of developer—sufficient for the

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developing-box or any other container which accommodates about 110 cubic inches of developer. Fifteen minutes development at 65° Fahr. for par-speed and ortho films, eighteen minutes for super-speed and twenty minutes for the panchromatic emulsions should be allowed. Use the developer but once.

The rinsing-bath should be composed of

Water	64 ozs.
Potassium chrome alum	1 oz.
Acetic acid (28% pure)	1½ oz.

Rinse for two or three minutes and then place in an acid-hypo fixing-bath for about twenty minutes. Washing should not be prolonged more than half an hour.

Tray-development of cut-film negatives has been a failure, so far as I am concerned; and I do not wish to recommend it.

If there is need for intensification or reduction the cut-films may be treated.

Stereoscopic transparencies—often called diapositives—are much more pleasing than glossy paper-stereographs. I also must confess that they are more difficult to make. I think, however, that if you will follow the instructions given below, much of the difficulty will vanish.

Glass-transparencies are without doubt the best, especially those with exceedingly fine grain such as the Ilford "Alpha". But they are heavy, easily broken, and easily scratched. To put a cover-glass over them will remove the last-mentioned objection, remedy in part the second, but will double the weight. And then, our stereoscopes often will not take a double thickness transparency. A sheet of thin celluloid —Kodaloid, thin or medium—bound over the face of a positive is an excellent method to preserve glass-transparencies. If the celluloid becomes scratched in time, it may be replaced.

But for general utility purposes I employ cut-film positives bound with heavy Kodaloid. These transparencies are light, portable, and not easily scratched. The extra time spent in binding them will be amply repaid.

If your camera is the 45 x 107 mm. size, the most economical way to obtain diapositives is to purchase the 5 x 7 size of positive cut-film. This will give you four dozen positives for $1.50, or less. The three-quarter by seven inch strip from each 5 x 7 film can be cut down to make trial-exposures.

The process-film can be used instead of the positive film to make stereo-transparencies; but it has a gelatin-backing that scratches more easily than the celluloid back of the positive cut-film. Both positive and process-film have about one-twentieth the speed of portrait-film.

A satisfactory developer for positive film may be prepared as follows:

Hot water (125° Fahr.)	32 ozs.
Elon	10 grs.
Sodium sulphite (E. K. Co.)	3½ ozs.
Hydrochinon	180 grs.
Sodium carbonate (E. K. Co.)	1½ ozs.
Potassium bromide	50 grs.
Cold water to make	64 ozs.

Develop five minutes at 65° Fahr.

I use a modification of the time-and-temperature method of development that has proved to be a time and film saver.

In the first place I sort my negatives. As they are all developed by one kind of developer this is not a difficult task. A negative-comparator may be made by fastening two correctly developed negatives to the upper and lower thirds of a sheet of ground or opal glass, with a space left in the middle to hold the other negatives against for comparison. This can be done in the daylight. When your normal negatives have been thus grouped, other groups of more or less properly exposed and developed negatives can be sorted in the same way.

Try the proper time of exposure for one of the correctly exposed and developed negatives, using strips of waste positive. Vary the exposure for each half of the test-strips. Carry the test strips through the full process of developing, rinsing, and fixing. Wash for a couple of minutes, and dry in the breeze of an electric fan. The strips are now ready for inspection. The negative-comparator may again be utilised, this time with properly exposed and developed diapositives, either film or glass. Select in this way the proper time of exposure for each group of negatives. Each lot may thus be run through with a uniform exposure and developed afterwards. Do not vary the time of development, and see that the temperature remains uniform. Unlike pyro, this developer may be used for more than one batch of film.

Before binding the positives they may be lettered or numbered with India ink. If you wish to color them, now is the time to do so. Charming effects may be obtained with transparent oil or watercolors, if care is taken.

For binding cut-film positives you will need transparent heavy Kodaloid cut to the proper size, and strips of passe-partout binding. The ⅞-inch gummed passe-partout can be cut in four longitudinal strips, and these last folded lengthwise before moistening.

Cut-film is asking you for a fair trial. Test it, especially the panchromatic emulsion. Experiment with the various Wratten gelatin-film color-filters, and bring in some new thrills to your stereo-photography.

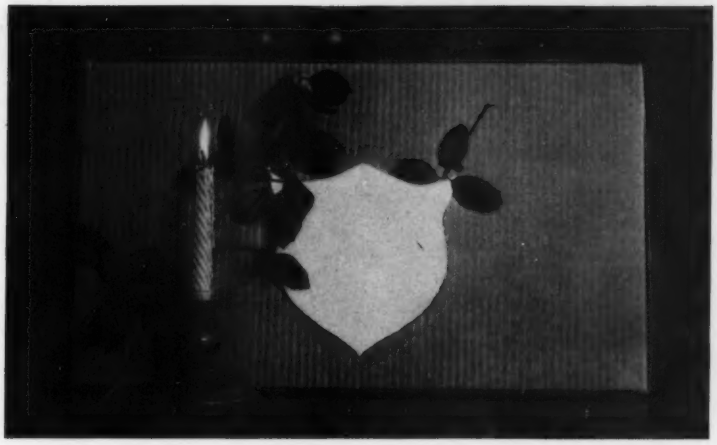

FIGURE 1 BEFORE SCRATCHING THE GREETING WILLIS K. JONES

Saying It With Photographs

WILLIS KNAPP JONES

ACCORDING to the advertisements, it is possible to say with flowers anything from "I love you", to "I'm sorry you have the toothache". Yet, there are ideas that even the florists cannot help you express. Words are needed. And how about using photographs to say them? With somewhat the feeling of Bulwer Lytton—who, as you remember, once remarked that the only way to make sure of having an interesting novel was to write it himself—I shopped for Easter-cards, and birthday-cards and Christmas-cards. And, finally, I decided to make them myself.

It was simple enough. For an Easter-greeting, I set up some daffodils in a pitcher, set them

FIGURE 2 THE COMPLETED CARD, UNMASKED WILLIS K. JONES

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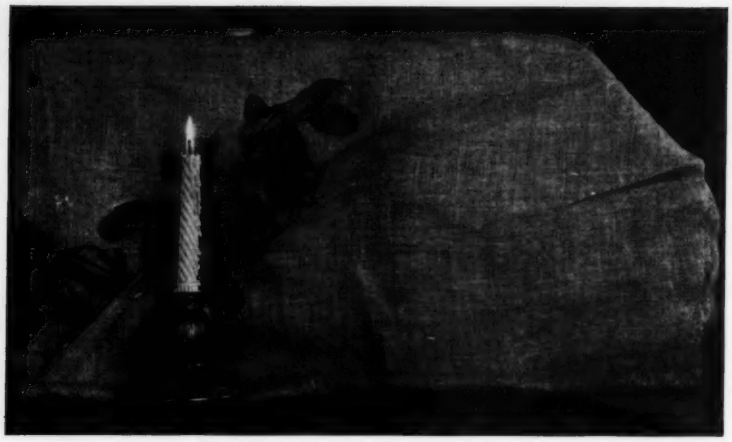

FIGURE 3 READY FOR ANY INSCRIPTION WILLIS K. JONES

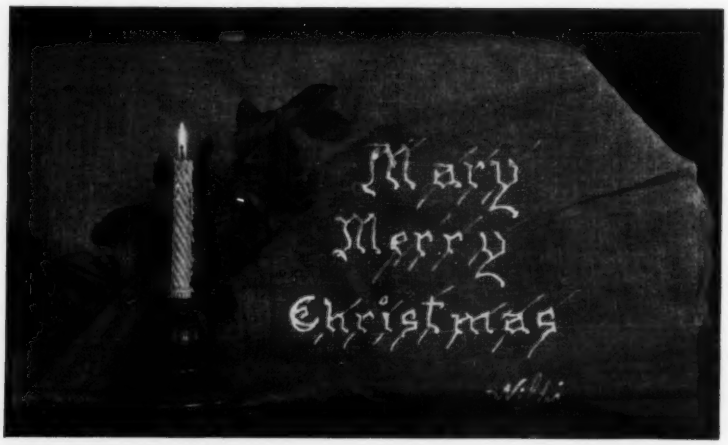

FIGURE 4 WITH INSCRIPTION, UNMASKED WILLIS K. JONES

against a gray wall, pointed a Brownie camera at them and snapped. Then, I wrote "Happy Easter" or some other such banality on the film, printed a dozen copies, and my friends were so taken with the originality of the picture that the sentiment was overlooked. That was years ago. Now a Graflex has supplanted the littler camera, and the exposure is somewhat shorter; but the idea is just the same, and people seem to be just as eager to get the cards.

Because more people send Christmas-cards than other kinds, it may be helpful and interesting to describe those that I used last year. I made two different kinds. For one, all that was needed was a burlap-bag, a candle and a stick, and a spray of holly. These were arranged on the back of a chair against one end of the table, my camera rested at the other, and two desk-lamps, one with 100-watt and the other with 40-watt lamps helped out the weak daylight —the unequal lighting being to get shadows.

For the other, I used a suit box that had a slight pattern on it, the candle, and an extra tiny spray of holly. Then, as a background for a message of greeting, I cut a shield-shaped piece of paper which was pasted on the box. I wanted the greeting in black letters, so that I used a white paper. Had I used white letters, I would have used paper of a darker color.

The manipulation is simple. I gave an exposure of three seconds at F/8 on Eastman N. C. film. This was developed in the ordinary way. Then when the negatives were dry, I took the point of a knife and scratched away, on the face of the film, the message I wanted. This meant that I had to print the film reversed in order to make the message read correctly.

There were several individual cards I wanted to make; and, not wishing to make an extra photograph for each, I used some old films that I had soaked in hot water till the emulsion was removed; and on the blank celluloid, with an ordinary pen and ink, I wrote my greeting. This extra film was placed against the negative, and the print was made through both. If one is extravagant, and does not want to bother with celluloid that curls at the least provocation, he can expose film number five—in a six exposure spool—without turning the number to the center of the red window, and leave number six unexposed. Then, upon development, he will have enough blank celluloid on the end of the roll to make two sheets upon which to write. Or, he can obtain the gelatin.

FIGURE 5 THE COMPLETED CARD WILLIS K. JONES

These are only suggestions. The main thing is to begin, and ideas will be plentiful. Silhouettes made with a flash-sheet, or snapshots of various kinds will do as the foundation for a greeting—a turkey for Thanksgiving, a firecracker for Independence day, a moonlight-scene or a harvest-field for Hallowe'en, and so on; and since the writing is done on a separate film, the picture is not spoiled for other uses. In fact, the recipient of the cards will value them more than they would the original picture.

One family volunteered the information last year that the only Christmas-card they kept was the greeting that came as a photograph. It did not cost nearly so much as an elaborate purchased card, it does not take long to make, and it shows that the sender thinks enough of the friend to go to a little bother. So, the next time you have something to say to that good friend of yours, say it with photographs.

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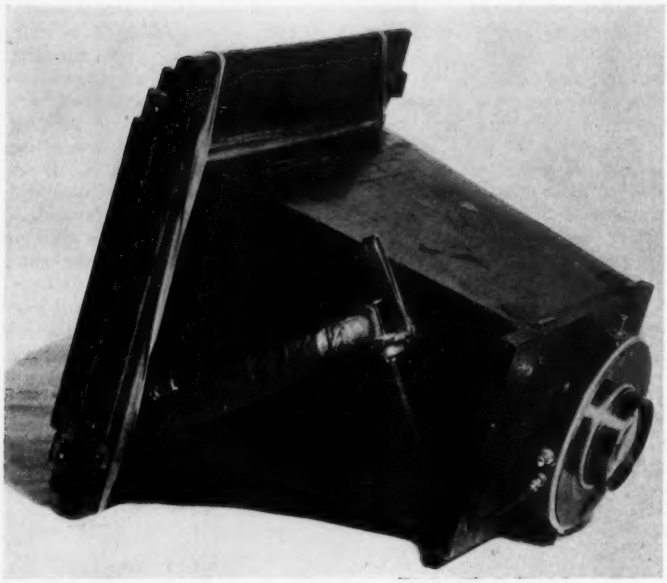


MY HOME-MADE AËRIAL CAMERA — RUSSELL T. NEVILLE

Amateur Aerial Photography

RUSSELL T. NEVILLE

A FEW years ago, our fair city was visited by a stray aviator who carried passengers for brief flights at fifteen dollars per trip. That was, and still is, a lot of money; but perhaps I got more thrill out of that ride at that price, than from any since, although today anyone may fly for less money. I sought permission to carry a camera aloft. About the only thing available in equipment that seemed at all suitable, was a 3A Graflex. Without knowing anything about conditions up above, I climbed blithely into the rear seat, was duly strapped in like a baby in a high-chair and asked to sign my consent to the aviator killing me without financial recourse.

As soon as we were fairly off the ground, I attempted, in my extremely limited sphere of action, to get busy with the Graflex. But the propeller blast, with the wind due to our speed, possibly augmented to some degree by the gentle breezes which normally blow, almost tore the camera from my trembling hands. The bellows flapped like a sail in a cyclone and the focusing-hood collapsed with a tenacity worthy of a better cause. I didn't know whether to "shoot 'em" at a hundredth of a second or a thousandth, fully realising that I had vibration to contend with as well as the speed of the airplane to overcome. I tried both exposures. Then I hastened eagerly to the darkroom, as soon as my feet were again on firm land.

Some negatives showed an appalling triangle of wing. Some had queer lines running across them, which were later identified as being caused by including struts and cables in my view. A few—a very small proportion,—looked as a photographic negative should look. Fortunately, these better ones showed one of our large manufacturing plants fairly well. One company puts out a breezy little house-publication once a month. I showed my aërial pictures to the editor of that sheet, with all the pride and joy with which the fond new papa exhibits his first-born. Friend editor immediately wanted to buy these pictures for publication.

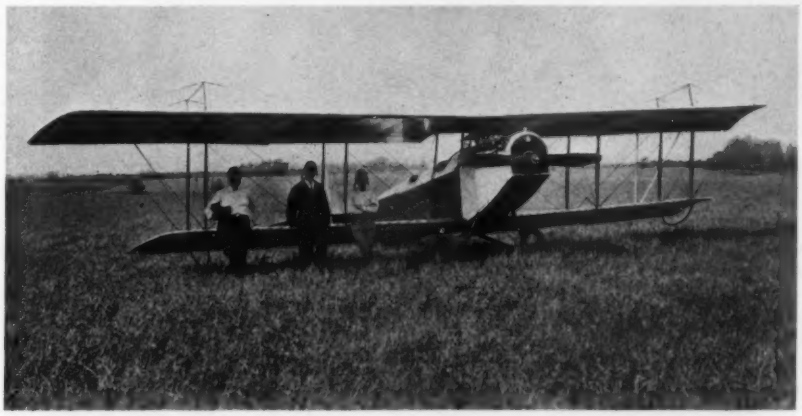
My price was $25 for three views, postcard size. He kicked as no proverbial steer ever had the nerve to do. He talked of extortion. "Twenty-five dollars for three post-cards?" He never finished that argument with me, because I told him that if he wanted to buy postcards, he could find all he needed at the post-office for one cent each, and no sane man would think of paying more; but if he was discussing *aërial photographs*, my price was $25 for three. I won. My ride was paid for, I had some aërial negatives and all was lovely.

Soon a couple of other bird-men came to town. I arranged for a flight when they would not ordinarily be busy carrying passengers, and planned for a little longer ride above the city than was ordinarily given. At eleven o'clock the next morning, I presented myself.

The mechanics were fussing around the motors; but finally we took off. At the most dangerous height, about four hundred feet, the motor began to gasp and stutter, and before I realised what it all meant, I discovered that Mother Earth was rushing up very rapidly to enfold us. A large catalpa grove was right below us. This comprised about five acres, with the trees set out in close rows for fence-posts. Some agricultural genius persuaded a lot of farmers hereabouts that they could afford to raise their own catalpa fence-posts on land now worth five hundred dollars an acre. In time shorter than required to tell about it, I found that we were skittering over the tops of maturing corn in a field adjoining the catalpas. Then with a crash, we struck, turned over, and I hung suspended by the so-called life-belt, from whose fond embrace I was utterly powerless to free myself. I hung head down wondering what next. Then the pilot, fortunately not injured, crawled under, cut the belt and allowed me to fall out on my head. Aside from a bleeding nose, caused by a bump against the edge of the cock-pit, I was all right. I found an ear of corn in my pocket, and I now claim to be the only person who ever picked corn from an airplane.

Half an hour later, I was flying over the city in the other machine, and again got a few pictures with a large number of failures. Here we met with a new difficulty. We found that we could not thread the end of the protective paper which covers the roll-film, through the slot in the spool, while in the air. Too much vibration and too strong a wind. Unkind friends said I was too nervous. My retort was that they had never crashed in a plane and then gone up in another within a few minutes and tried to make pictures. But the average amateur will encounter this same difficulty about threading up the paper. I solved that problem, on my next flight, by obtaining several extra spools, threading the paper through the slots and fastening it securely, and then placing a rubber-band about both spools to hold it all tight. This was done on the ground before we started up.

Then I didn't have much chance to fly for some time. But recently, a local friend bought



AUTHOR, MECHANIC, AND PILOT RUSSELL T. NEVILLE

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THE FLYING-FIELD RUSSELL T. NEVILLE

a "Jenny" airplane with Canuck wings. Maybe it is the other way around. I never can remember. But it doesn't matter much in an article on aërial photography. We began to fly again, and have been doing quite a bit of it, locally and on cross-country flights. My first flight in this ship was to make aërial pictures of thousands of acres of flooded land, including two towns. A total distance on this trip of about thirty-five miles was covered, and the work was done for a local newspaper.

I find that a Graflex is about the most difficult thing in the world to manage up aloft. It's heavy, cumbersome, and without adequate means of holding it securely. Then, too, the wind flutters the bellows and focusing-hood, adding to the vibration and other difficulties. A small box-kodak or camera is better than the Graflex, if nothing better is at hand.

I have another friend here, who runs an amateur photo-finishing plant. And he finishes them nicely, too. He was once upon a time in the photo-section of an aërial squadron, and saw a deal of service abroad with the English. But he's still a good photographer and very handy with tools. He said that he could make an aërial camera, by using the 5 x 7 reversible back from my Rochester View-Camera, with an old Optimo shutter which I had adapted to my Cooke F/5.6 lens, and could make it in half an hour, while he was resting. Of course, I knew he couldn't do it, and, told him so.

We knew where we could pick up one of these trick enlarging-affairs, funnel-shaped, all nicely painted and finished. You all know what I mean. One of the contrivances you put a negative into, at the small end, I guess it is, and a sheet of paper in a holder in the big end—in the darkroom, of course—and then rush out and point it up at the sky for a while. We bought the only one the dealer had left for a few cents. He had taken it out of stock and forgotten what it was for—if he ever knew—or why he had ever bought it.

First, Friend Brady cut it off square at the large end, at a point which would accommodate the 5 x 7 plate, or film-holder. Then he put a collar around it, fitted the reversible back so that it could be put on or taken off as easily as off the Rochester view-box with which it came. As it stands now, it requires only an instant to remove the back from the view-box, and snap it into the clips which hold it on the aërial camera. We calculated the length required to focus this lens at infinity, allowed just a little to cover any error, fitted a three-ply board over the small end, cut the hole for the shutter-mounting, and tried it out on the ground with test-exposures. Here we ran into a little difficulty; but nothing any amateur who is at all handy with tools need be afraid of. The resulting pictures at first were not in focus. With a wood rasp a little wood was worked off the small end and other exposures made. Finally,

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we reached the correct place and the lens-board was made a permanent affair. The inside of the box was given a coat of dead-black paint and our most difficult construction-work was over with. A visit to the ten-cent store gave us a couple of heavy metal handles, similar to those used on shed doors. These were placed at such an angle, that when held parallel with the earth, we obtained an oblique picture that does not include the fuselage nor overhanging wings. These handles were then taped with insulating or tire-tape to afford a better grip. We experimented a little with peep-sight arrangements for a view-finder, but discarded them as being impractical and not necessary.

It is impossible to hold a camera high enough to use such accessories. An antinous-release was fitted to the shutter with the button conveniently place at the end of the handle on the right side, so that it was in a natural position for the thumb to press.

Then with hopes high, we soared aloft. And once again we soared aloft. In fact, we soared aloft many, many times. And results were always about the same—from ten to fifteen per cent. of fair to middlin' negatives.

This rather took the joy out of life for us, because we believed that we had a fool-proof camera, and all we needed to do was to step into the ship, say "Take me up Fred, I crave aërial photographs", and aërial photographs would result. It's a sad tale, but many, many a plate was exposed and the resulting negatives brought weeping, wailing, and gnashing of teeth.

We counseled together, did we three—former aërial photographer, who was good, pilot who was a good pilot but no photographer, and poor me, who was neither aërial photographer nor pilot. If I tried to photograph a greenhouse, the negative showed a corner of the wing and half the house. Perhaps one part of the picture would be so sharp you could almost see the bees pollenising the flowers, and the rest so fuzzy that it looked like a flock of feathers in a snowstorm. Some negatives shivered all over, and some only shuddered in one corner. About every evil and fault you ever knew about, photographically, appeared to torment us, augmented by a flock of woes you know nothing of—unless you have tried aërial photography.

WALWORTH MANUFACTURING COMPANY RUSSELL T. NEVILLE

Carefully we three analysed my technique. I stood up in the front seat of the plane, turned around and leaned out the left side of the ship, bracing my right shoulder against the wing-strut, or rather holding the strut clasped between my shoulder and face, as I embraced it. Sometimes, to further steady myself, as the ship swayed and tossed, I leaned my left arm on the top of the fuselage. Finally, we decided that too much vibration was being communicated

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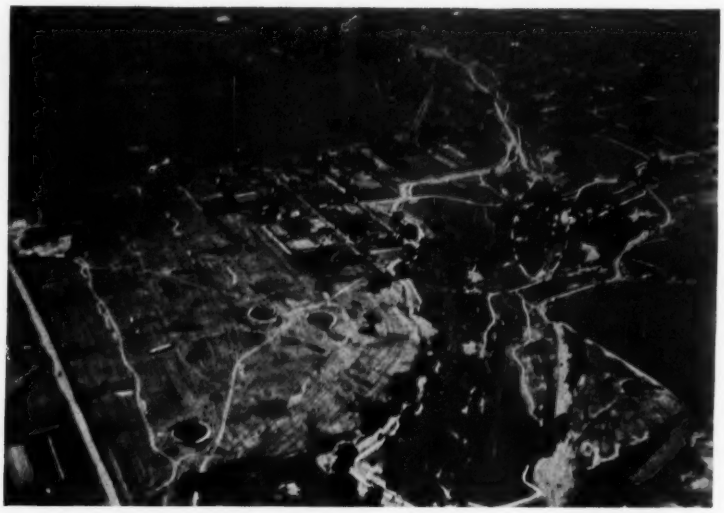
to the camera via my arms, which were naturally quite rigid, to hold the camera steady. So I tried holding the camera out at arm's length, with arms relaxed as much as possible. I also changed my position on the strut some, leaning against it with my breast instead of my shoulder. That helped things a great deal. But still a lot of films showed light-streaks, fogged in some way. It was decided that in replacing the slides in the holders, I probably pried the holder away from the back of the camera enough to let light leak in. It's easy to do with a slide that is a little tight, and especially easy to do in a swaying, tossing airship. So I tried especially hard to overcome that fault. Still the fogging continued. Then we decided that the tremendous wind-pressure against the little edge of the holder must be blowing the holder away from the camera. We reinforced the metal springs on the back, with heavy rubber-bands, and stopped this trouble. It simply shows what unexpected things you have to contend with.

Recently, it was my privilege to show this home-made aërial camera and some pictures made with it, to the expert U. S. Army personnel at Scott Field, Belleville, Illinois. That's the place Uncle Sam keeps all his blimps, or non-rigid dirigibles.

And take it from me, the aërial men down there know photography. I wish that I might stay with them for some time and absorb their photographic learning. And I've been making pictures under all sorts of conditions for longer than some of these men are old—making them on the land, above it and below it, under about every condition that ever a photograph was made. But these boys are "there" and no mistake about it. I wanted to get expert advice on some of my troubles, aërially speaking. I was told that vibration caused a slight buckling in the films in some instances, and this explained why some of our pictures were sharp around the edges, for instance, and fuzzy in the center, or vice-versa. I was told that the U. S. Air Service uses a sheet of optically corrected glass over their films to prevent this.



BAKER PARK RUSSELL T. NEVILLE

One of the officers examining our crude aërial camera said it was the first time that he ever knew a picture could be made with a piece of packing-box, a mass of rubber-bands, ten-cent store hardware and tire-tape. I called his attention to the fact that he omitted the one requisite—brains to use that equipment, and he acknowledged his mistake. I might add that a certain degree of what, for polite usage, might be designated as "intestinal fortitude", is required for aërial photography.

CAMBRIDGE, ILLINOIS — RUSSELL T. NEVILLE

We're not industrial photographers, but we find that many industrial plants are willing to pay exorbitant prices for good views of their works. This aërial camera can be duplicated at trifling cost if you already have a suitable lens and a reversible back from a view-camera.

The picture of Baker Park herewith, shows a new park recently donated to the city by a wealthy resident and shows one hundred and ten acres besides the area adjoining the park.

We now make exposures at 1/300 of a second, according to the old Optimo shutter. It's possibly a little slower than that; but 1/150 of a second will do and will be ample under ordinary conditions. We have tried panchromatic films and believe that they are better than the orthochromatic for this work. We tried orthochromatic film and a color-filter; but found it not so good, as it slows exposures up too much. Although panchromatic film is only rated at 70% of the speed of Eastman Portrait Film, we find that they give better color-values, cut down haze, and are more satisfactory in every way.

If you haven't time nor inclination to make such a camera as I have described, and want to try your hand at aërial pictures, I advise you to use a cheap little box-camera, simply sticking it over the side and snapping away blindly. You'll get just as good results that way as you can get under average conditions with a bellows-kodak or camera. The bellows-kodak will collapse, cutting into the picture-area, and the wind will vibrate it so that results will be uncertain.

I've been aloft when this aërial camera of ours was almost snatched from my hands, despite the firm handles. You'll be surprised at the amount of wind-pressure you will find up there—and the propeller whirling around from 1400 to 2000 times per minute adds to all of that.

Gradually I have perfected my methods, profiting by costly mistakes. It's a good thing to sit down beforehand and rehearse every move, because the average person is more or less "up in the air" figuratively as well as physically, when off the earth. Procedure will be vastly different because of changed conditions, and unfamiliar ones constantly bob up to perplex you. It's a different thing entirely from pointing the lens at something on the ground that is stationary, telling it to look pleasant, please, and making an unhurried exposure—generally with more or less favorable and easily controlled conditions as to angles and the like determined beforehand. Aloft, you shoot when you can on the fly, in a wind-tossed ship, traveling at high speed, from divers and catch-as-catch-can angles, notwithstanding the best of co-operation from your pilot.

But it's a lot of fun, there's a thrill to it, and for myself, I now have a fine collection of aërial negatives which show our whole city, and I believe they'll constantly increase in value with the passing of the years. Try to see what you get.

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A Survey of Books on Photography

WARWICK BARSE MILLER

MANY amateurs are probably not aware that there is a large number of books in print today which deal with photography; or if they do know it, from circulars and advertisements, they are puzzled as to which books are the best and which to buy for their particular needs. Excellent volumes are constantly being written about photography, even as in the other arts and sciences, and they teem with valuable information and recreative enjoyment. To acquaint amateurs with this fact and to enable them to select exactly the books they need, I have surveyed in the following article a field of the new and the old books that are worth reading. I have divided photographers into "beginning" amateurs and amateurs, and have classed the books under their respective subjects, so that selection will be facilitated. At the end of the survey I have given the location of the books on photography in the public libraries of seventeen large cities.

BEGINNING AMATEURS—By beginning amateurs I mean strictly beginners in photography who are just learning how to develop and print. Before beginning to practice the science, the beginner will be helped considerably if he reads some short, well-presented introduction, such as "The First Book of Photography" by C. H. Claudy, "Elements of Photography" by Frank R. Fraprie, "Chats on Photography" by W. Wallington, "Photography Simplified," and "Photographic Equipment," a simple description of equipment by Austen Hanks. All these books are clear, enjoyable reading. Wm. Gamble's "Photography" enters more into detail, and yet retains simplicity and clarity. It is a pleasure to read Clive Holland's "How to Use a Camera," and its chapter on "The Art of Making a Picture" is the best discussion of the meaning of a print that there is.

For the beginner who is beginning to practice, the best all-around textbook is R. Child Bayley's "Photography Made Easy; As Easy As A B C," written in clear everyday language; and "Practical Photography," a series of nine little volumes (50c a piece) by Frank R. Fraprie offer valuable help on such subjects as "Beginner's Troubles," "How To Make Portraits," and so forth. Every beginner should read Stanley C. Johnson's "Saturday With My Camera," for it treats uniquely the artistic and practical side of photography; and for the beginner who is fond of laboratory-work, the finest textbook is Alfred Watkins' "Photography, Its Principles and Application," which explains photographic chemistry; although less technical, and more for pleasure-reading and yet very practical is "Practical Amateur Photography" by Wm. S. Davis. It is well worth reading. Other books and manuals are "Photography Indoors and Out" by Alex Black, "The Principles of Simple Photography" by F. W. Sparrow, "Early Work in Photography" by W. E. Henry, "First Steps in Photography" by J. C. H. Wallsgrove, "Photography in Winter" by H. Snowden Ward, "Photographers' Handbook" by Harrison and Douglas, and "Amateur Photography" by Beeson and Williams, most of which volumes cost less than a dollar. I should own either Bayley's or Watkins' book, and also the pamphlets published by the Eastman Kodak Company, such as "How to Make Good Pictures," "The Velox Book," and "Kodakery," the last being a monthly booklet with helpful articles sent free for one year to everyone who buys an Eastman camera.

AMATEURS—By these I mean, of course, those who have mastered the rudiments of the science and are ready to investigate the deeper processes. Amateurs will find good books on nearly all branches of photography. First, in the realm of art, there is that charming volume which photographer or layman can ill afford not to read, and that is A. J. Anderson's "Artistic Side of Photography," a broad, cultured treatment which cannot but inspire an appreciation for beauty in everyone who reads it. Paul C. Anderson's "Fine Art of Photography" is a good, clear textbook on art-principles; Antony Guest's "Art and the Camera" is exhaustive, but heavily detailed; and "Art-Photography in Short Chapters" by H. P. Robinson, "A Treatise on Art" by John Burnet, and "Human Anatomy for Art-Students" by Fripp and Thompson are all good; also "Light and Shade and Their Application" by M. Luckiesh. On pictorial and landscape work we have an enjoyable elementary treatment entitled "Pictorial and Landscape Photography" published by PHOTO-ERA MAGAZINE (now out of print); "Pictorial Landscape Photography," a collection of eight essays by the Photo Pictorialists of Buffalo explaining their theories; Paul C. Anderson's "Pictorial Photography, Its Principles and Practice," a good text, also "Pictorial Landscape Photography" by the same author; the excellent "Pictorial Composition in Photography" which

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ranks with A. J. Anderson's book; "Artistic Landscape Photography" by A. H. Wall; "Pictorial Composition and the Critical Judgment of Pictures" by H. R. Poore, and "Composition," a series of exercises on art-structure, and rather advanced. Inexpensive booklets are "Practical Pictorial Photography" by A. H. Hinton, "Pictorial Landscape Photography" by John A. Hodges, and articles in *Photo-Miniature*.

Because portraiture depends largely on the judgment of the photographer himself, there are but few books on that subject. One excellent plain-spoken treatment which embodies a new viewpoint on American art is "Art-Principles in Portraiture" by Otto Walter Beck, a member of the Architect League of New York. Small booklets are "How to Make Portraits" in the *Practical Photography* series; "Portraiture for Amateurs Without a Studio, Part I, Technical" and "Portraiture for Amateurs Without a Studio, Part II, Pictorial," both by Rev. F. C. Lambert; "Home-Portraiture Made Easy" by A. H. Hinton; "Lively's Method of Lighting" by W. S. Lively; and articles in Nos. 109, 129, 136, 137, 141, and 152 of the back numbers of *Photo-Miniature* also "Portrait Lightings" by Will H. Towles.

Among the outstanding general textbooks are Alfred Watkins' "Photography: Its Principles and Application", the best complete elementary text; "Photography for the Amateur" by Geo. W. French, a book used as a supplement to lectures in the New York Institute of Photography; "The Complete Photographer" by R. Child Bayley, less technical and broader than the two former volumes; "The Science and Practice of Photography" by H. Chapman Jones; and "Photography" by A. B. Brothers is a little old and heavily detailed. The amateur should know something of physics and chemistry before reading John R. Roebuck's "The Science and Practice of Photography" and Prof. Louis Derr's "Photography for Students of Physics and Chemistry", two excellent texts written entirely from the viewpoint of the two sciences mentioned. Also "Instruction in Photography" by Sir W. de W. Abney, and "The Fundamentals of Photography" by C. E. K. Mees.

For books on special subjects, the student who does not know much chemistry will find Wm. R. Flint's "Chemistry for Photographers" the best textbook; Elwood Hendrick's "Everyman's Chemistry" is more general; and a good introduction is Chas. F. Townsend's "Chemistry for Photographers"; and Louis Derr's "Chemistry for Photographers" is an advanced treatment of lenses, and chemical and printing-processes. "Experimental Photography" by C. J. Leaper is short and elementary. "The Silver Sunbeam" by J. Towler (1864) discourses on sun-drawing, wet and dry plates, collodion, albumen, gelatin, wax, resin and silver; and "Gelatin in Photography" by S. E. Sheppard is a series of monographs on the theory of photography from experiments in the research laboratory of the Eastman Kodak Company.

An excellent textbook for the beginner in color-photography is E. J. Wall's "Practical Color-Photography"; and "Color-Correct Photography" by T. Thorne Baker is for those who have "neither great theoretical knowledge nor practical skill"; and "Natural Color-Photography" by Koenig and Wall, and "Photography in Colors" by G. L. Johnson are two good manuals, the last being rather scientific. "Three-Color Photography" by Baron A. von Hübl is rather advanced, and likewise with O. Reg's interesting "Bypaths of Color-Photography". Elementary booklets are "How to Make Prints in Color" by Frank R. Fraprie; "The Photography of Colored Objects" by C. E. K. Mees; "How to Color Photographs and Lantern-Slides" by Richard Penlake; and "Lumière Autochromes", a pamphlet published by the R. J. Fitzsimons Corporation, U. S. agents for these plates.

"The Art of Retouching Negatives And Practical Directions How to Finish and Color Photographic Enlargements" by Robert Johnson is the best textbook on retouching, and good guides are "Practical Retouching" in the *Practical Photography* series; "The Art of Retouching" by J. Hubert; and "Retouching" by Arthur Whiting. In airbrush-work George F. Stine's "The Airbrush in Photography" and S. W. Frazer's "Treatise on the Airbrush, With Progressive Lessons" are both good texts, leading the beginner gradually from the simpler to the more complex processes.

"How to Make Enlargements" of the *Practical Photography* series; "Photographic Enlarging" by R. Child Bayley; and "Enlargements, Their Production and Finish" by G. R. Smith are all good elementary treatises. On nature-photography we have "Outdoor-Photography" by Julian Dimock; "Nature Photography for the Beginner" by E. J. Bedford; "The Camera in the Fields" by F. C. Snell; "Photography for the Sportsman-Naturalist" by L. W. Brownell; "Nature-Photography" by Stanley Johnson, a very good elementary book; and "Photographing Flowers and Trees and Decorative Photography" by J. M. McFarland. All these books are fine, especially the first three.

On other subjects there is "The Science and Practice of Photographic Printing" by Lloyd I. Snodgrass; "How to Make Good Prints" by M. D.

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Miller; "P. O. P" by H. Hinton; "Bromide Printing" by F. C. Lambert; "Platinotype Printing" by A. H. Hinton; "The Gum Bichromate Process" by. J. C. Richards; "Photo-Acquaint or the Gum-Bichromate Process" by Maskell and Demachy; "The Oil and Bromoil Processes" by Mortimer and Coulthurst; "A B C Guide to Autotype Carbon Printing" by the Autotype Company; "Carbon Printing" by E. J. Wall; and "A New Treatise on Modern Methods of Carbon-Printing" by A. M. Marton. For optics there is "How to Choose and Use a Lens" by F. R. Fraprie; "The Lens-Part of Photography" by R. D. Gray; and "Lens-Work for Amateurs" by Henry Orford, three short elementary books. Longer treatises are "Physical Optics" by R. W. Wood; "Outlines of Applied Optics" by P. G. Nutting; "A Treatise on Photographic Optics" by R. S. Cole; "Optics for Photographers" by Dr. Hans Harting; "The Lens" by Bolas and Brown; and "The First Book of the Lens" by C. W. Piper. In photomicography we have George West's "The Practical Principles of Plain Photo-Micography", a good book for the beginner; Martin Duncan's "First Steps in Photomicography"; "The Handbook of Photomicography" by Lloyd Hines; and Brough Randles (an excellent text); "The A B C of Photomicography" by W. H. Walmsley; "Practical Photomicography" by J. E. Barnard; and "Elementary Photomicography" by Walter Bagshaw. In Commercial photography L. G. Rose's "The Commercial Photographer" tells how to make industrial photographs and F. R. Fraprie's "Cash From Your Camera" tells how the amateur can sell his pictures; and there is also "Making Your Camera Pay" by Frederick C. Davis; "Photographs for the Papers: How to Take and Place Them" by John Everard; "Photography for the Press and Photography for Profit" by F. J. Mortimer. On Engraving we have "The Photo-Engraving Primer" by S. H. Horgan; "Photo-Engravers Handbook on Etching and Finishing" by P. C. Raymer; "Commercial Engraving and Printing" by C. W. Hackleman; and "Photoengraving" by Amstutze (revised edit.); also "The Halftone-Process" by Julian Vervasser, and "Halftone and Photo-Mechanical Processes" by S. H. Horgan.

On Miscellaneous subjects there is "The Secret of Exposure" by F. R. Fraprie; "How to Ensure Correct Exposure" by A. H. Hinton; "Unit Exposure and Actinometry" by F. M. Steadman; "Magnesium Light Photography" by F. J. Mortimer; "Practical Development" by M. D. Miller; "Developers and Development" by George E. Brown; and "Development Made Easy" by A. H. Hinton; "Photographic Amusements" by W. E. Woodbury; "The Photography of Moving Objects and Hand-Camera Work for Advanced Amateurs" by Adolf Abrahams; "Lantern-slide Making" by Rev. F. C. Lambert, and "The Lantern and How to Use It" by Norton and Bonner, and "Practical Slide Making" by G. T. Harris; "To Make Bad Negatives into Good" by A. H. Hinton; "Mounts and Frames and How to Make Them" by F. C. Lambert, and "Practical Frame Making" by W. L. Noverre; "Telephotography" by T. R. Dallmeyer; "Modern Telephotography" by Capt. Owen Wheeler, and "Telephotography" by C. F. Lan-Davis; "Airplane-Photography" by Herbert E. Ives; "Bromoil Printing and Bromoil Transfer" by Dr. Emil Mayer; and "Modern Methods of Book Illustrating" by H. Trueman Wood (rather old).

The best encyclopedia of photography is the ten volume Schriever and Cummings edition of "The Complete Self-Instructing Library of Practical Photography", and the best one volume dictionaries are "Cassell's Cyclopedia of Photography" and "Wall's Dictionary of Photography". "Hasluck's Book of Photography" is a huge text, but you can invariably find here what you can't find anywhere else. A few manuals are "Cramer's Manual on Negative-Making and Formulas" published by the Cramer Plate Co.; "The Amateur Photographer's Manual" published by the Gundlach-Manhatten Optical Co.; "Manual of Photography" by Alfred Brother; and "A Manual of Photographic Technique" by L. J. Hibbert.

Much valuable information can be found in back numbers of magazines kept in bound volumes in every public library. All one has to do is to ask for "The Reader's Guide to Periodical Literature" at the information desk of the library, and under "photography" he will find any branch he desires, and it will give all the articles that have been published during the year with the name and month of the magazine. Magazines in circulation at present are: PHOTO-ERA MAGAZINE, *American Photography, Camera, The British Journal of Photography, Abel's Photo-Weekly, Photo-Miniature, Bulletin of Photography,* and *Camera Craft;* and magazines which have ceased publication are *Wilson's Photographic Magazine, The Amateur Photographer, The Practical Photographer, The Photo-Beacon, The Photographic Times,* and *Photographic Mosaics.* Also, I forgot to mention that in connection with the books on artistic work the amateur will find it an invaluable help to study the collection of beautiful prints published yearly in England under *Photograms.* This same idea with prints

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is carried out in America with articles in Percy Howe's annual collection of the same called *The American Annual of Photography.*

For pleasure reading "The Romance of Modern Photography", and "The Marvels of Photography", both by C. R. Gibson, and "The Story of Photography" (history, short) by Alfred Story are three very entertaining books; also "Picture Making by Photography" by H. P. Robinson. A fine collection of English essays is "The Barnet Book of Photography", while heavier, older books are D. W. Abney's "Photography", and W. Vogel's "Progress of Photography".

This is not a complete survey of all the books on photography; but I think that I have included all the important ones which the amateur will be interested in and which are likely to be in large public libraries.

The following is the location of the photographic books in seventeen large cities. Where the books are scattered around, as they are in the Boston Public Library, it is best to look up your volume in the card-index and let the clerk find it.

BOSTON PUBLIC LIBRARY: Third floor, Art Department. Through room at the head of the stairs, and then to right.

CHICAGO PUBLIC LIBRARY: In the circulation department with the Fine Art books. They are all in one place.

DENVER PUBLIC LIBRARY: First floor, circulation department, in open shelf-room. All in one place.

LOUISVILLE FREE PUBLIC LIBRARY: 1st floor, Open Shelf-Room. Reference books in Reference Room, 1st floor.

LOS ANGELES PUBLIC LIBRARY: 1st floor, Department of Science and Industry in new building open in January. 9th floor of present building.

NEW ORLEANS PUBLIC LIBRARY: Together, except books relating to other subjects.

PHILADELPHIA, THE FREE PUBLIC LIBRARY OF: Art, Circulation, Periodical, and Reference Departments.

PITTSBURGH, CARNEGIE LIBRARY OF: 1st floor, Circulation Department. Magazine files and year books in Reference Department.

DETROIT PUBLIC LIBRARY: New and popular volumes are in the circulation department 2d floor. The rest are in the stacks and must be called for by number in card-index.

KANSAS CITY PUBLIC LIBRARY: The decimal system is used, certain volumes of reference do not circulate. Others are in circulation department.

NEW YORK PUBLIC LIBRARY: 7th floor in main stack-room. In one place.

PROVIDENCE PUBLIC LIBRARY: 3d floor art department on left. In one place.

SAN FRANCISCO PUBLIC LIBRARY: In the stacks off the reference department. In one place.

SEATTLE PUBLIC LIBRARY: 4th floor, art department. All in one place.

SPRINGFIELD, MASS., PUBLIC LIBRARY: Main floor, Art Department. In one place.

WASHINGTON PUBLIC LIBRARY: Lobby of main floor, In one place.

In the next article I will select from this survey books which are suitable for an amateur photographer's library.

Photographing Diatoms

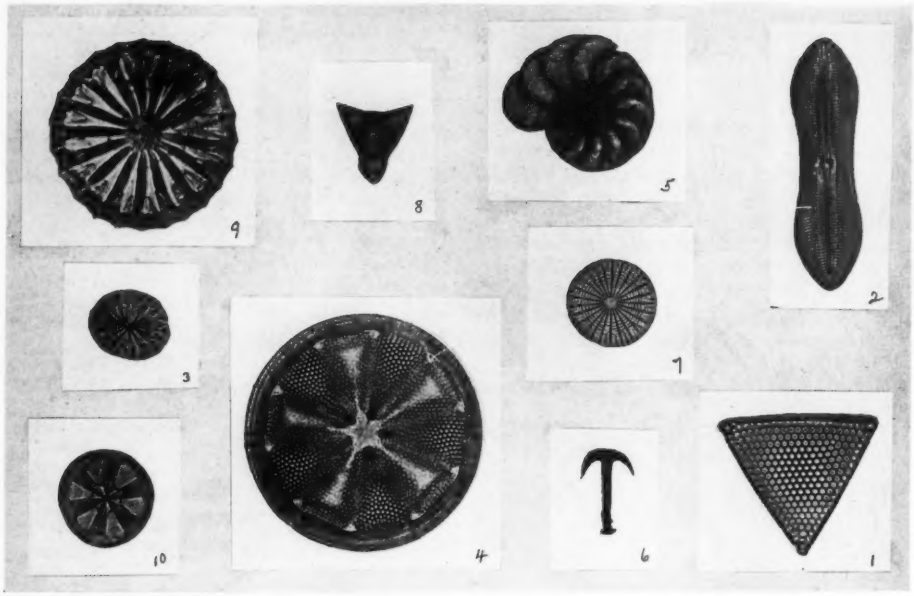
DR. GEORGE L. ROHDENBURG

EVER since man first developed to that point where he became able to draw, objects of nature have been a source from which he has derived inspiration for formal design. For example, legend tells us that the capital of the Corinthian column is the conventionalised presentation of a basket about which the foliage of an acanthus bush has grown; and those who are versed in the history of art can recite similar instances of the origin of other formal and accepted motives used in design.

In addition to the world which is visible to our unaided eye, there exists another world which remains hidden until the microscope is employed. This hidden world is also rich in motives which may be practically applied in design. One of these hidden wonders, the snow-crystal, is undoubtedly familiar to many; and in one form or another more or less conventionalised it has been applied by designers particularly to textiles.

It is our present purpose to present some illustrations of another section of the invisible world in which the design and architecture are possibly as beautiful and more varied than are the snow-crystals. With the advantage over the snow-crystal that, at times, there are also observed charming color-combinations, the diatoms, minute as they are, are to be considered as much a wonder of nature as are its grander manifestations, the ice-covered mountains and rushing rivers.

In the depths of the ocean there exist untold millions of animals whose size varies from fourteen to two hundred one-thousandths of a millimeter. As with everything else that possesses life, the time comes when these minute forms having accomplished their task, die and sink to the ocean's bottom. At other times,



A GROUP OF DIATOMS

DR. GEORGE L. ROHDENBURG

huge convulsions of nature at one moment kill uncounted numbers. These dead organisms become infiltrated with mineral constituents and form the basis of the chalk-deposits to be found throughout the earth. Brought from the ocean's floor they can, after certain preparations, be examined under the microscope and permanent records of their form made by photography, the usual photomicrographic procedures being employed.

Aside from their design, and in many specimens their play of color, which color is most probably produced by the refraction of light brought about by their structure, they offer a test of technical skill. When viewed purely from the standpoint of design, they are harmonious arrangements of curves and straight lines—an arrangement which immediately emphasises any spherical aberation of the lenses of the microscope.

The photographic data of the present series may be of interest. The source of illumination was a tungsten arc-lamp which gives an almost monochromatic light. The exposures were made on Process cut film, and development was with a strongly alkaline hydroquinone. The exposures varied from 1 to 4 seconds. Filters were not used in making these exposures.

Technically, figure 1 is called Thunnia elegans and it comes from Austria. The magnification is approximately 500 diameters. Those who are interested in the game of pool will note the familiar arrangement of a number of spheres. Figure 2, which resembles a jewelry design, is an enlargement at 500 diameters of the Navicula geunnata from the Gulf of Naples. Figure 3, which might inspire a cubist, is the Spongia spinella, times 300 diameters. The Actinoptychus heliopelta, figure 4, comes from Maryland, and like figure 5, the Foraminiferne which comes from Australia, is enlarged 500 diameters. The Synapata digitata, figure 6, comes from the South Seas and is the original anchor-design made by nature millions of years before man ever applied to it the undignified name of mud-hook. Figure 7, Arachnoidisen ornatus, reminds one of the charts of recording-thermometers. The butterfly-form of figure 8, the Lithochyteis pyramidalis is found in the Barbados, and Myriotrochus eniku, figure 9, comes from the South Seas; both are magnified 500 diameters. The cartwheel form of figure 10 is the Chirodota pranaensis, also from the South Seas and also enlarged 500 diameters. Indeed, nature supplies us with designs of remarkable beauty which possess marvelous artistic technique.

A Velvet-lined Camera Carrying-case

PAUL HORST

IT is needless to say that a carrying-case of some description is absolutely necessary for the protection and preservation of the ordinary hand-camera. This is particularly true of the camera which is carried about a great deal by those who indulge regularly in outdoor activities, such as, hunting, fishing and hiking. There are, of course, a great many varieties and styles of camera carrying-cases, running from cheap unlined, imitation leather or fiber-cases to the most elaborate velvet-lined genuine leather-cases.

But with most amateur photographers, oiled sole-leather cases without lining seem to be the most popular. As for the leather-feature of the case, this is to be desired where it is subjected to any degree of abuse. However, when it comes to the question of a velvet lining, carrying-cases which are regularly put out with this lining are of such a grade and quality as to demand a price which is almost prohibitive to the average amateur-photographer.

Yet, the advantages to be gained from a velvet-lining are far from imaginary. In the first place, a soft layer such as the velvet provides between the hard leather-wall of the case and the camera proper, prevents the camera from "jiggling" and vibrating at every rapid or violent action from the individual who is carrying it. This affords a very material protection to the shutter-mechanism, especially the more expensive and complicated shutters. In the second place, a velvet-lining preserves the leather or fabric which covers the camera as it not only holds the camera rigid but also provides a soft resilient surface of contact.

Now, even though the average velvet-lined carrying-case is somewhat more expensive than the unlined, the economical photographer can easily line his own case provided he is at all handy in making things.

Most carrying-cases are large enough so that the camera fits into them rather loosely. This, of course is necessary if a lining is to be put into them. The kind and quality of lining to be used is largely up to the individual. To be sure, the better the quality of the velvet, the longer will it wear as a carrying-case lining. However, as to the weight of the cloth, this must be governed by how snugly the camera fits into its case. As a rule, if the case has been particularly made for the camera in question, there will be very little free space between the camera and the walls of the case. Hence it will be necessary to get the thinnest velvet possible. Enough material to do the job can usually be found about the house; on old hat-trimmings, on discarded garments, or even draperies.

For most purposes, the velvet to be found around the house is light weight and adapted to case lining. But once in a while a case is found, or otherwise obtained, which is exceptionally large for the camera and then a heavier grade of velvet must be used than is found on discarded garments. In this case, one can usually get a heavy cloth at any automobile trimming and upholstering shop. Comparatively little velvet

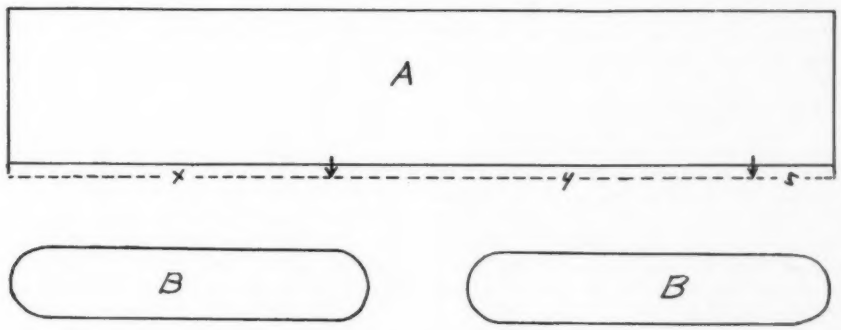


FIGURE 1 PAUL HORST

is required and generally scraps from closed car lining or upholstering can be found in such shops, which the proprietors will be glad to dispense with.

The lining-operation itself is simple. Only three pieces of cloth are needed. These are shown in Figure 1. The diagram (*A*) represents the piece which covers the front, back, and the rounded upper and lower ends of the case. Its width is determined by the width of the camera and not by the width of the case. The length (*x*) indicates the section reaching from the mouth of the case in front down to the lower end; (*y*) extends up the back to the top of the case; (*z*) covers the flap and when the case is closed extends downward to meet the opposite end of the strip.

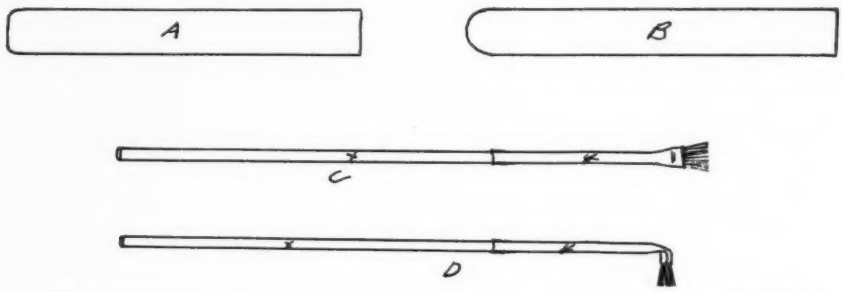


FIGURE 2 PAUL HORST

The outlines of the pieces (*B*) are determined by placing the camera on its side upon the cloth and making its outline on the velvet with chalk. These figures should then be cut out inside the chalk-marks in order to result in pieces which will be congruent with the sides of the camera. All marking should be done on the wrong side of the velvet as the face will not receive clearly defined and accurate chalk-marks.

To put in the lining, the few simple instruments shown in Figure 2 are required. The drawings (*C*) and (*D*) represent brushes for coating the inside of the case with glue. The lower ends of these instruments are merely brushes which are regularly provided with Le Page's glue. If no glue is at hand the most convenient form to buy it in is in the small full-mouthed bottles such as are sold of the Le Page's brand or any similar kind. One bottle of this kind is sufficient for the average sized lining-job. The glue can be bought at any drug store and most clerks will be glad to furnish several extra brushes with the purchase. The long handle (*x*) must be long enough so that when tapered and thrust into the hollow tin tubing handle of the brush (*y*) the entire contrivance will enable one to reach with ease the lower end of the case. It may be made from anything which happens to be at hand such as cigar box or store-box wood.

The brush (*C*) is used to coat the lower end of the case; (*C*) is for covering the sides. A right-angle bend is made about one quarter of an inch above the base of the bristles with a pair of common automobile-pliers. However, it must be bent away from the seam in the tubing-handle. Otherwise, if bent toward it, the seam will open and release the bristles.

In applying the glue to the inside of the case the lower end is first coated with the brush (*C*). Then with (*D*) the sides are smoothly and evenly coated. A third brush, without an extension handle, is used to coat the backs of the velvet-lining sections and the enclosing flap of the case. The glue itself should be very thin so that only the barest film of a coat need be applied. If too much glue is used it will permeate the cloth and sag into the corners of the case. Then, when dry, it will form a flinty surface which is much more injurious to the camera-covering than the leather itself.

After the glue has set enough to ensure a dependable adhesion between the two surfaces the lining-pieces are put in. Section (*A*) of figure 1 is drawn around the camera and held in such a position that the end (*x*) lies across the face of the camera in a line coincident with the edge of the mouth of the case. Then the camera with lining-strip held to it is thrust into the case. When it is withdrawn the lining will remain.

To put in the side pieces a narrow thin piece of cigar-box wood as shown in (*B*) of figure 2

is employed. This piece must be a trifle narrower than the thickness of the camera and about an inch longer than the length. The rounded end must conform to the rounded end of the camera. To put in the end strip it is folded transversely in the middle to hang over the rounded end of the wood strip, glued side out. The case is now held inversely and slightly inclined and the strip is thrust up into it until the end of the strip lies directly against the open end of the side of the case. With a slight pressure of the wood-paddle against the side of the case the upper half of the strip is forced to adhere. Then the case may be righted and the other half of the strip allowed to drop down into place. This is also pressed against the side of the case.

All the corners on the rounded end of the paddle have been smoothed off with sand-paper. With this end the strip is now chaffed its entire length into the side of the case. The piece (*A*) similar to (*B*) except that it is not so round is used to chaff the front and back of the lining firmly against the walls of the case.

Although, for the sake of clarity, these directions have been given somewhat at length, the average individual should accomplish the operation in a little over an hour.

Practical Kinematography

HERBERT C. McKAY

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Chapter X—Airplane-Work

THE work of the kinematographer is carried on in all parts of the world. Wherever other men go and wherever sufficient light exists, there the kinematographer will at some time or other find work to do. The airplane is coming to be such an important factor in our everyday life that the kinematographer whether he be a news, review, advertising, engineering or studio-worker, will find it necessary, at times, to work from such a position in the air.

The usual plane will be of the open cockpit type, such as the later scouting-machines. Although the usual position of the pilot is in the rear cockpit, it is better in kinema-work if he takes the front controls, leaving the rear cockpit to the kinematographer. For short bits and hurried trips, it is possible to set the tripod upon the framework of the fuselage, lashing it fast; but such a procedure is not advisable. It is awkward for the kinematographer; but, worst of all, there is danger of interfering with the controls, and such a thing would be literally fatal.

It is far better to fasten a stout board across the cockpit, with screw-clamps to hold it firmly in place. To this board is screwed the head of the tripod, and the camera mounted upon this. If this arrangement has been carefully adjusted, camera-work may go on regardless of the position of the plane. As this work requires the full attention of the kinematographer, it is, of course, very necessary to use the life-belt regardless of the contemplated positions of the plane. This is even more necessary as the kinematographer will often be facing backward, kneeling upon the seat. If the plane is a military machine, and has gun-swivels, the camera can be mounted directly upon these, and this greatly facilitates the work.

The pilot must understand the objective; for his assistance is necessary to obtain good pictures. It is evident that with the camera mounted over the center of the cockpit nothing approaching the vertical can be photographed by means of the tilt-head. In this case, the pilot can materially assist by swinging his plane to tilt sidewise.

If a definite objective is in view, the camera can be mounted near the edge of the cockpit on one side which greatly facilitates the work. If mapping is to be done—such as in preliminary surveys—the camera can be suspended vertically, and cranked at slow speed. At any great height, while the speed of the plane may be great, the absolute movement of the ground is apparently slow, due to the great field of view at such a height. When we consider that the lens-angle is still greater than the eye-angle, it is easy to understand that a slow crank will not only serve to conserve film, but will make the film easier to view. Of course, the detailed aërial survey is a work for the magazine mapping-camera.

The usual open plane of today throws oil from the motor. It is of the utmost importance that the lens be shielded from this oil-spray, for a film of dirty oil upon the lens will ruin film more quickly than anything else. You

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THE ELMS U. STEPHEN JOHNSON
HONORABLE MENTION—WILD AND CULTIVATED TREES

might as well try to make the film with a lens covered with greasy finger-marks. Keep the lens capped while not in actual use; and, when in use, try to confine the direction of work to the hemisphere whose plane side shall be a plane perpendicular to the fuselage and passing through the camera. In other words, shoot backward, up, down, right or left; but always back of the centerline. This gives one hundred and eighty degrees lateral swing, with a possible twenty degrees cut out by the tail and rudders of the machine and this should be ample.

The atmosphere of this old Earth is far from transparent. The usual amateur has considered it so; but those who have tried photographing distant mountain-peaks, bird's-eye views, or attempted telephotography can testify that haze is a serious problem, especially as it is often opaque to the plate when transparent to the eye. This is due to extreme refraction or scattering of the rays of light. From available data it seems that the longer light-rays are the strongest. Not in their ability to affect the photographic emulsion; for in this case the short rays are the more active; but with regard to their response to obstructive factors. Thus in spectrum-formation the red, or long, rays are bent least from the path of the composite ray, and the blue rays are bent farthest. In like manner, haze scatters the ultra-violet, violet, and blue rays far more than it does the red. This results in some curious phenomena in connection with the use of color-filters.

If a photograph of a distant object is made through a haze with an ordinary plate, a fine fog will result. If, however, the exposure be made upon a panchromatic plate with a K-filter of proper strength, the view will be rendered approximately as the eye sees it, but if a deep red filter be used, the plate will show only a bare trace, if any, haze or fog. At the same time, the color-correction will suffer from over-correction.

This begins to open the way for successful

aërial photography; but as a red filter lengthens exposure, it is not practical. The use of the ordinary meter-reading and multiplication-factors of the filter might make such an exposure appear practical; but there is one point which must be taken into consideration. The short exposures in sea, beach and aërial photography are based upon the great amount of available, highly actinic ultra-violet light which is present. If we use filters which absorb this light—and we have seen that to overcome haze the filter must absorb it—we cannot allow this factor to enter into the calculation, so our basic exposure should be calculated as for an ordinary photograph on the ground. With this primary factor and the multiplying factors of the filters we will find that the required exposure is too long.

To meet this difficulty the Eastman Company has developed a special aëro-filter. This is a light yellow, with a comparatively low multiplying factor, yet, its absorption is such that it gives very satisfactory results in cutting haze. Of course, all such filters must be used in conjunction with panchromatic stock to make use of the published multiplying factors.

There is a filter used in process-work, known as the Æsculin filter. This is a colorless filter used to cut out the ultra-violet light when photographing drawings in which Chinese White has been used. This filter is delicate and unstable in daylight, turning brown after a certain amount of exposure to daylight. However, experiments in telephotography and aërial photography have indicated that this filter is very efficient in cutting haze.

From day to day the use of aërial kinematography grows. The use of the plane by the newsman is already established procedure. There are many events which can be covered from a plane in a manner which could not be equalled from a stationary point. In catastrophes, in natural phenomena such as earthquakes and so forth, and similar occurrences, the plane is invaluable. The use of the plane in war has been proved a success and of military importance.

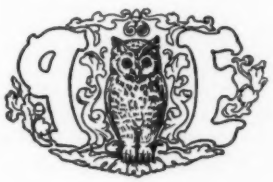
Another use which should prove profitable to the kinematographer is in photographing real-estate developments and like projects. Such films would be very valuable in sales-campaigns, either in selling real-estate or in stock-sales of development companies. The same would apply to new factories, oil-fields and similar developments.

Not the least important use of the plane in kinematography is in engineering work. In the first place, a comprehensive preliminary survey can be made easily and quickly. This survey will be far more easily understood by officials who have no training in engineering than would the usual survey-maps and blueprints. Later, as actual development goes forward, a series of films could be made which would give the home-officials a graphic record of progress far more valuable than any number of reports.

More and more corporations are turning to aërial surveys before investing any considerable amount of money in development of large tracts of land. After development is definitely decided upon, such a survey is invaluable as an office-record and for reference; but the purely preliminary survey can be made just as successfully, more quickly and with less trouble and expense upon motion-picture film than upon a mosaic paper-print. After the project is approved, the orthodox aërial map can be made; but, if it is turned down, a considerable saving has been made.

Aërial photography is still young and aërial kinematography of still less age; but there seems to be a wonderful future for both. There is no doubt whatever that before this volume acquires its cover that there will be still newer developments. For that reason I have attempted only a brief and generalised survey of this work. As with all young and rapidly developing sciences, the student must follow the progress in paragraphs and individual articles which are available from month to month in technical periodicals.

(To be continued)



XUM

What Camera Not to Buy

ERNST D. BLAIR

FOR about seven years I have practiced photography as a hobby and in that time have read fully a dozen articles in various photographic publications on the subject "What Camera To Buy". Realising, therefore, that most amateurs are informed on that subject, it occurred to me that a few comments on what not to buy, as illustrated by my own experience, would not be out of place.

My first camera was an imported vest-pocket, 1¾ x 2½ with an F/7.7 lens, for plates and filmpacks. Using the packs I sometimes obtained very good results; at other times, the film would not lie flat, giving fuzzy pictures, again negatives would be fogged in pulling out the tabs, or horizontal scratches would occur. I photographed a very dear relative of mine with this camera, making some half dozen exposures, discovering afterwards that the black paper placed in front of the films had jammed and left the films in their pristine state. Later on, upon her death, which was not a result of my endeavors, it was found that a rather poor snapshot I had made previously was the only likeness of her made in a great many years.

This most exasperating incident and others in a smaller way led me to try plates. Carrying the camera in one pocket and half a dozen loose metal plateholders in another proved to be out of accordance with my idea of the convenience of a vest-pocket camera; and, desiring as well, a camera that would make good-sized pictures without enlargement, I disposed of the small instrument and sent to a photo-shop for a 4 x 5 plate-camera.

The camera arrived true to the description excepting the fact that the bargain-catalog had not mentioned that the shutter was in a state of coma—all photographers will appreciate what this means. In other words, the shutter would open halfway and then go to sleep, thus making an unlimited time-exposure. As I wanted to be able to make some snapshots, I sent the camera back with a request for money back. The reader knows that I received the money, as my chronicle of woe is not ended.

A more careful examination of catalogs of rare bargains revealed a very fine outfit. This one would last me a lifetime. However, when it came, I saw that it had already had a longer life than myself—I was then fifteen—and presumably, from our comparative appearances, a more useful one. It was a 4 x 5 plate-camera with a Goerz lens. The original view-finder and focusing-scale had given way to newcomers, that is to say, they were newcomers to that camera; for if I had not known the history of the art and had taken these attachments for evidence of its age, I would have supposed that photography was a contemporary of the ancient Greek art of sculpture. The camera was thus disabled for handwork, so without much hesitation I decided that a tripod was the appropriate thing.

This camera in spite of its antiquity did faithful work for several years, the excellent lens being its redeeming feature. But the time came when I wanted pictures of little excursions and trips, and of my college-days, and that necessitated a hand-camera. After trying to have an accurate scale and finder fitted by the manufacturer and getting an unsatisfactory job, I sold the old 4 x 5, although it was with genuine regret.

My next venture was a 2¼ x 3¼ roll-film camera of American make with an F/6.3 lens. This was to be in my pocket all the time and get all the pictures. These pictures, however, did not seem of quite anastigmatic quality. A search for the trouble showed that the shutter was a trifle loose, and that when I pressed the button the shutter did the rest, to disfigure Mr. Eastman's well-known remark. The camera was not of his manufacture, by the way. A visit to a repair-shop did something to remedy the trouble; but the shutter never was as rigid in the front of the camera as it should have been. One day while out in the midst of some beautiful rural scenery, I had occasion to cross a barb-wire fence. I got to the top and jumped. The camera jumped independently of me and alighted rather firmly on its back on some rocks. The former being of very fragile aluminum, made so to save the camerist half an ounce of weight, it was bent in such a way as to occasionally let in an inquisitive ray of light, which, welcome as it would have been on some of the subjects I essayed, only succeeded in fogging a film every now and then. So camera number three went to Davy Jones' locker, in this case a junk shop.

By this time I had made a good many pictures, some good and some otherwise, and I thought that I knew a little more about cameras. Having read of the great efficiency of the focal-plane shutter, I paid special attention to advertisements of a certain foreign make of focal-plane camera, compact and strong that would be

Courtesy of Foto-Revista

THE DEVOUT PILGRIM — A. MONDELLI

better than a reflex without the latter's bulk. The price I paid for it would almost have bought a farm. It was a 5 x 7 plate-camera with an F/6.8 lens. After using it for some time and getting mediocre results, it became apparent to me, first, that an eight-inch lens has too little depth of focus to be satisfactory for hand-camera work; second, that owing to the narrow design of the camera-body it was wobbly on a tripod; and third, that the direct-vision finder, a lens-type, highly touted in the books, resulted in the near subjects being invariably misplaced on the plate. I also found that a 5 x 7 plateholder, handy as it may be in a studio, cannot be carried in the ordinary coat-pocket, making a case a necessity, and that the camera was decidedly conspicuous. In fact, when I was making a picture of Marshal Foch while he was over here, quite a few spectators in my vicinity almost missed seeing the Marshal, so vigorously were they cheering my camera. I got that picture all right; but I have missed others because of its conspicuous appearance. Lastly, the makers had, not very brilliantly, attached the handle directly opposite the shutter controls so that they were likely to be damaged easily when the camera was laid down.

The reader by this time probably thinks that I, like the celebrated Englishman, take my pleasures "sadly, or even morbidly". But if he thinks so, he is wrong. Like every real enthusiast, I have enjoyed the hobby immensely, and while my experience with cameras has been rather costly, it has led to the making of pictures which are certainly worth far more to me than the money I have spent on apparatus.

No attempt has been made to enumerate all the troubles which the amateur runs into in his search for *the* camera; but I have tried to show that the amateur's troubles are not all encountered in exposing the plate or in the darkroom. To close, I will say that the beginner will find that a camera which can be examined at hand is better than a dozen in a far-off shop, that manufacturers prefer making their instruments to repairing the same, and that it is easier to buy a camera than to sell it for a fraction of what it costs when it was new.

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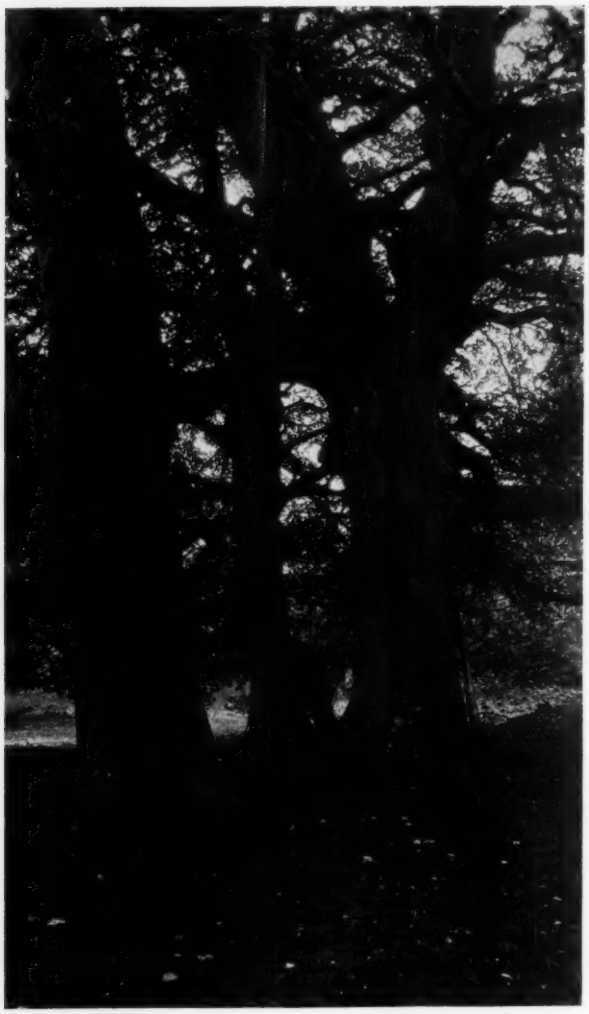

SALISBURY BEECHES
B. U. JENKINS
HONORABLE MENTION—WILD AND CULTIVATED TREES

EDITORIAL

Photography as Work and Play

THE philosophic editor of Whiting's ever-refreshing column, in the *Boston Herald*, says that playing is doing what you want to do, and work is what you have to do. If we were compelled to play, play would be work. The professional baseball-player works doing the same thing that the boy does at play in the back lot. A city-man puts on old clothes and spends day after day fishing from a boat, or along the edge of a stream, and calls it play. A man who catches fish for a living, does much the same thing and wishes he could get a change.

The practice of photography, however, is not in the same category. Most professionals, even when some of them find it hard to make both ends meet, seem to be content with their calling, which offers more variety than many another. It were better, though, if some professional workers could have had some good business-training; then they might be more prosperous. Many work harder than would seem necessary. Many spend their evenings in the darkroom, and not a few ignore the importance of a winning personality and a pleasing appearance. Is there a school where these things may be acquired?

While most professionals really enjoy their work, profitable or otherwise, the amateur workers are enthusiasts. When, after a long period of enjoying the pursuit, the amateur puts his camera away not to be used again, he shows poor judgment. He is losing something of value in life. We know of such individuals and are sorry for them. We have induced several of them to join local camera-clubs, where their waning interest has been revived. They are participating in the exhibitions and even in the monthly outings. One old camerist took up golf two years ago, at the expense of photography. Finding the sport too strenuous, he has forsaken it—by the advice of his physician—and is now motoring with his camera. He has recently taken up the gum-process and talks of sending several prints to the Pittsburgh Salon. We rather think that they will be accepted.

Yes; camera-work is the hobby *par excellence*. Thanks to its infinite variety, numerous possibilities, and the pleasure it gives to the worker, his friends, and the public, photography makes its appeal to the lover of what is visually beautiful and soulfully stirring.

Photographs for Christmas

THE desirability of utilising enlarged prints from one's own negatives as Christmas-gifts has been suggested on this page many times during the past twenty years. During that time, we have been gratified to hear that pictures used for this purpose have been a source of continual enjoyment to the recipients and, incidentally, have reflected much credit on the artistic skill and taste of the donors. There is no doubt that the pictures served to advance the cause of pictorial photography, and to stimulate the sale of cameras as well.

On the other hand, instances have come to our attention in which the photographer did not exercise the best judgment in the selection of the subject, or put into the print the best that was in him. Consequently, the recipient was unable to enjoy it or proudly to show it to his friends. At the beginning, the camerist is generally attracted by a theme that makes a personal appeal to him, and the result excels in proportion to his innate sense of beauty and his knowledge of the principles of pictorial composition. Such a picture may please some persons, and others not at all. It may be well, therefore, if the pictorial worker could predetermine the preference or taste of the person he intends to favor, and to obviate possible regrets.

Is the picture to be a genre, a marine, a landscape, or a rural scene? It has happened that a critical visitor, noticing the donated picture displayed in the home of the recipient ventured to criticise it; and justly, too. After that, the picture naturally ceased to be a source of pure enjoyment to the owner, who had been made to see flaws in composition or technique he had not before noticed. The artistic reputation of the donor also suffered thereafter. May not this serve as a suggestion to the pictorial worker about to play the rôle of Santa Claus?

This page would not be complete, were we to forget to extend to our readers and friends a hearty Christmas-greeting. The year just passed may record many desires that remain unfulfilled; but we ought to remember that blessings often come to us in disguise.

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Third Prize: Value $3.00.

Honorable Mention: (*a*) Those who win an Honorable Mention Award and are *not regular subscribers* will receive PHOTO-ERA MAGAZINE for six months with the compliments of the Publisher.

(*b*) Those who win an Honorable Mention Award and are *already subscribers, or have been subscribers,* will receive a credit of $1.00 toward the purchase of any standard photographic textbook, this credit to be used within thirty days of receipt in the U.S.A., and within ninety days overseas

Prizes may be chosen by the winners, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA MAGAZINE, or in books. If preferred, the winner of a first prize may have a solid silver cup, suitably engraved.

No Prize or Honorable Mention pictures are sold, exchanged or the halftone-plates sold without permission, in writing, from the maker of the print. Proceeds of all sales, *excepting halftones,* go to the maker of the picture.

All competition-pictures not returned are used to make up the PHOTO-ERA PICTURE EXHIBIT which is sent to schools, libraries, museums, camera clubs and to responsible organisations for exhibition-purposes, *free of cost.*

Rules

1. This competition is free and open to photographers of ability and in good standing—amateur or professional.

2. Not more than two subjects may be entered, but they must represent, throughout, the personal, unaided work of competitors. Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered into competitions elsewhere, before PHOTO-ERA MAGAZINE awards are announced.

3. Prints on rough or linen-finish surface, and sepias, are not suitable for reproduction, and should be accompanied by smooth prints having the same gradations and detail. Prints may be mounted or unmounted.

4. Each print must bear the maker's name and address, the title of the picture, and the name and month of competition, and should be accompanied by a letter, *sent separately,* giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer, and printing-process. Enclose return-postage. Data-blanks sent at request.

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA MAGAZINE, unless for special reasons. This does not prevent the photographer from disposing of other prints from such negatives *after* he shall have received official recognition.

6. Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces is sent with data. Criticism at request.

7. Prints should be carefully packed between two layers of cellular board so cut that the corrugations run at right-angles to each other.

8. Competitors who have won three first prizes within a twelvemonth become ineligible to compete for prizes in this competition for *one* year thereafter.

Awards—Advanced Competition
Subject—Wild and Cultivated Trees
Closed September 30, 1925

First Prize: J. Herbert Saunders.
Second Prize: S. B. Buckner, Jr.
Third Prize: Franklin Gray McIntosh.

Honorable Mention: Louis V. H. Albers; A. Caskey; Ernest M. Child; L. J. Creegan; Mrs. Martha Curry; F. S. Dellenbaugh, Jr.; F. H. Foster; S. Hirano; Major E. L. Hooper; Duane P. Hotchkiss; B. W. Jenkins; U. Stephen Johnson; Walter Keiser; Hiromu Kira; Dr. K. Koike; R. Morita; Edward D. Mudge; Melvin C. Parrish; Michael J. Pecora; Chas. T. Ramsden; Frank Lee Rogers; Walter Rutherford; John O. Scudder; Kenneth D. Smith; L. J. Wilson.

Subjects for Competition—1926

"My Home." Closes January 31.
"Miscellaneous." Closes February 28.
"Indoor-Genres." Closes March 31.
"Table-Top Photography." Closes April 30.
"Artificial Light Photographs." Closes May 31.
"Miscellaneous." Closes June 30.
"Pictures of Children." Closes July 31.
"Real Sunrise and Sunset Pictures." August 31.
"Wild Flowers." Closes September 30.
"Miscellaneous." Closes October 31.
"Lakes, Rivers and Brooks." Closes November 30.
"Interesting People and Places." Closes Dec. 31.

Photo-Era Prize-Cup

BEECH-TREES—AUTUMN
J. HERBERT SAUNDERS
FIRST-PRIZE—WILD AND CULTIVATED TREES

SENTINEL OF THE HEIGHTS — S. B. BUCKNER, JR.

SECOND PRIZE—WILD AND CULTIVATED TREES

Advanced Competition

ALTHOUGH trees are not responsive to the demands of the pictorialist in the same degree as are animals, they lend themselves admirably to the scheme of the artist. The camerist who is a nature-lover, understands their moods, how they yield to the influence of atmospheric conditions, to sunshine, rain and storms. The present competition, "Wild and Cultivated Trees", offered unlimited opportunities to the picture-maker familiar with the physical appearance and behavior of trees in the woods, in the open, isolated on the rocky shore or in the desert plain. These opportunities were utilised in an admirable manner by a large per cent. of the contestants. The intelligence, the sympathy that they have evidenced in their pictorial efforts have been very gratifying to the Editors and to the members of the Jury as well. To be sure, there were not a few who contented themselves with making mere records, and in their efforts some of them expended much time and energy. What they achieved may have satisfied them, but did not meet the requirements of the competition. This is nothing new. He who enters one of the competitions, such as PHOTO-ERA MAGAZINE conducts, in the spirit of genuine enthusiasm—*con amore*—studies the subject, its possibilities and different aspects, and is willing to give it the time and attention it deserves, provided, naturally, that he has the necessary artistic and technical equipment, is the one who achieves something worthy of his efforts and pictorial photography.

"Beech-Trees—Autumn", on the preceding page, is a case in point. A greater camera-enthusiast than its author, J. Herbert Saunders, it would be hard to find anywhere. He seems to enter into his subjects with heart and soul, and the result is always gratifying. Despite a few minor deficiencies of his picture, the Jury perceived the artistic intent, and the sympathetic treatment of the theme. The contrast of light and shade is strongly marked, and with the resulting vigor comes a boldness of expression that is compelling. The artist may have visited this locality before, without, perhaps, being inclined to devote an exposure to what he beheld. Revisiting the woods, when the presence of haze gave an air of mystery to the place, he saw the picture he had anticipated. His knowledge of composition came into play and the result is an animated, well-balanced and individual creation. One admires the long scale, and numerous planes; the luminous quality and stereoscopic effect. The character of the trees is clearly indicated and there is no doubt as to the singleness and simplicity of pictorial design.

Data: Roundhay Park, Leeds; October morning; misty; 3¼ x 2¼ Reflex camera; 5¼ inch Anastigmat; at F/8; 2 seconds; Kodak Film Pack; Metol; bromide enlargement.

"Sentinel of the Heights" represents a typical, wind-twisted pine seen so often in mountain regions or along the Pacific Coast where isolated trees are exposed to the elements. Here, tempestuous winds have played merrily with the poor little tree and bent it quite out of shape. Nevertheless, the top with its easily counted branches tries bravely to maintain itself and would, if it could, relate its varied experiences to the interested beholder. The artist, doubtless touched and impressed by the Sentinel's obviously sad appearance, embraced the opportunity to create a picture that would tell its story to a receptive spectator. The barrenness of the

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place, devoid, as it is, of all human habitation or of plant- or animal-life, even sunshine is absent, has been interpreted with true, artistic feeling.

Data: August, dull light; drizzling rain; Plaubel Makina Vestpocket camera; F/3 Anticomar Lens; stop, F/4.5; 1-10 second; Agfa Film Pack; pyro; print, Charcoal Black from enlarged paper-negative.

Although the locality pictured by Mr. McIntosh is a desert, it is doubtless familiar with the sound of human voices. Pioneers of 1848 may have traversed these desolate places; they may have even halted and rested here. The camerist, however, who recently ventured to invade its stillness had an eye for the picturesque and, though his means were simple, he produced an eminently pleasing picture. The critical observer appreciates the value of gradation as a means of balance. The bush-like tree has been judiciously placed in low-lying hills, at the left. Had this slight elevation been bathed in sunlight or had it been in an otherwise high key, it might not have sufficed to serve as a needed balance in the picture. Fortunately the clouded sky assists very materially in supplying this pictorial need, and combines with the landscape to form an harmonious whole.

DESERT-TREE — FRANKLIN GRAY MCINTOSH

THIRD PRIZE—WILD AND CULTIVATED TREES

March afternoon; fair light; 3¼ x 4¼ Graflex; 5½-inch Kodak Anastigmat; stop, F/8; 1-25 second; Eastman roll-film; pyro.

WILFRED A. FRENCH.

Permanence in Prints

Too little importance is attached nowadays to the question of the permanence of photographs, remarks a writer in *The British Journal*. It was a question much more in the minds of those of the past generation, to whom the fading of print-out silver-prints was a sore trial and by whom the permanence of platinotype or carbon-prints was very much more greatly appreciated than is the case today. Quantity and speed of production are features of present-day photography which have unfortunately blurred the sense of pride which formerly existed in the making of prints which should last as long as possible. Even so, a good deal of loose thought is prevalent nowadays respecting this question of permanence. It is sometimes suggested that a printing-process deserves to be included among those yielding permanent prints because it is possible to point to prints which have lasted ten, twenty, or thirty years. Yet, in fact, that is not the point at all. So far as permanence is concerned, a printing-process must stand or fall by the lasting qualities of the average output, including the worst as well as the best which is sold to the public. When the question is regarded from this angle, there can be not the slightest doubt that platinotype and carbon stand in a superior class, for the reason that it is difficult by these processes to make prints which are not permanent, whereas with any process which involves fixation in a solution of hypo, permanence is conditioned largely by the care with which fixing is done and by the thoroughness with which the excess of hypo is removed. Even when the best is accomplished in these two respects there still remains the fact that the picture exists in an attackable gelatine-medium. Moreover, unless it is a sulphide-toned print, it is susceptible to tarnishing by products of combustion in the atmosphere. Undoubtedly every purpose is served by an enormous number of photographs if they retain their full original quality for, say, ten years. At the same time it is most desirable in the future interests of photography that photographs which are ordered in the belief that they will last should be by one or other of the admittedly "permanent" processes which we have mentioned. It is perhaps too soon to say that Bromoil may be added as a third, though a Bromoil in a permanent ink should last indefinitely.

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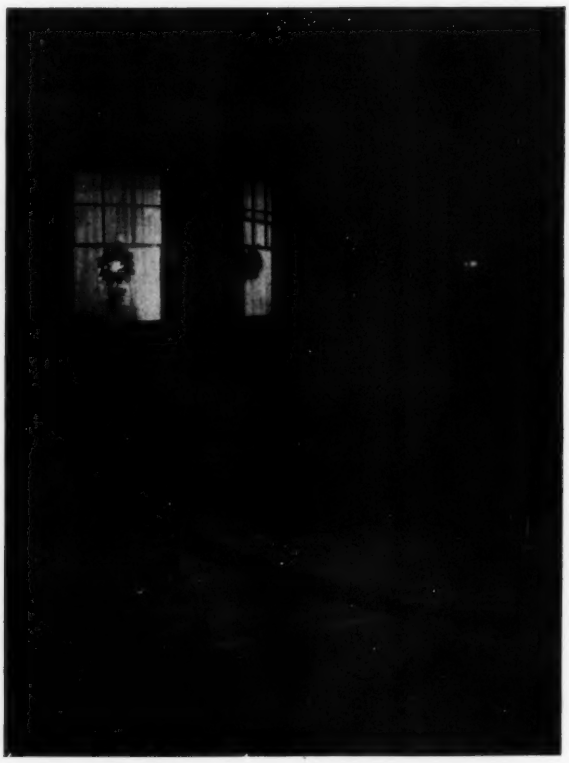
SUBJECT FOR NEXT COMPETITION

ADVANCED WORKERS



CHRISTMAS-EVE — ELSA B. VERSFELT

Advanced Competition—My Home
Closes January 31, 1926.

WHAT does your home mean to you? Whether it be a palace or a cabin, is it home? Is it the place where the richest and most beautiful experiences of your life occur? Is it where happiness and contentment may always be found, where loved ones minister to your needs and understand when things go wrong in the world outside? Perhaps, your home is just one room; but to you, it may be all that a mansion is to another. Or do you know of a "home" to which those who live in it dread to return at the end of the day? Yes, there are several kinds of homes. However, let us try to photograph as many happy ones as we possibly can.

By photographing homes for this competition, I mean to select whatever there is about your home which seems to you to have the strongest appeal. Is it the exterior, the cosy living-room, the children's playroom, the flower-garden about the house, the music-room, the big easy chair near the reading-lamp, the attractive piazza or sun-parlor or perhaps the dining-room? In short, were I to ask you to send me a picture of your home which would portray that which you loved best about it, what would you send? I have lived in palatial homes; and I have known what it means to climb four long flights of stairs to a small hall-bedroom on the top floor of a brown-stone front boarding-house in New York. Whether the present home of my reader is a mansion, cosy cottage or hall-bedroom, let him try to portray with his camera that which to him is most attractive about his home or the place that is home to him.

A. H. BEARDSLEY.

BEGINNERS' COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA MAGAZINE, Beginners' Competition
Wolfeboro, New Hampshire, U.S.A.

Prizes

First Prize: Value $5.00.
Second Prize: Value $2.00.

Honorable Mention: (*a*) Those who win an Honorable Mention Award and are *not regular subscribers* will receive PHOTO-ERA MAGAZINE for six months with the compliments of the Publisher.

(*b*) Those who win an Honorable Mention Award and are *already subscribers, or have been subscribers,* will receive a credit of $1.00 toward the purchase of any standard photographic textbook. This credit to be used within thirty days of receipt in the U.S.A., and within ninety days overseas.

Prizes, chosen by the winner, will be awarded in photo-materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA MAGAZINE, or in books.

No Prize or Honorable Mention pictures are sold, exchanged or the halftone-plates sold without permission, in writing, from the maker of the print. Proceeds of all sales, *excepting halftones,* go to the maker of the picture.

Rules

1. This competition is open only to beginners of limited experience with practical camera-activity, and whose work submitted here is without any practical help from friend or professional expert.

2. Workers are eligible so long as they have not won a first prize in this competition. Winners of the first prize automatically drop out permanently, but may enter prints in the Advanced Class at any time.

3. Prints eligible are contact-prints and enlargements up to and including 8 x 10 inches.

4. Prints representing no more than *two* different subjects, for any one competition, and printed in any medium except blue-print, may be entered. Prints may be mounted or unmounted, as desired. Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competitions elsewhere, before PHOTO-ERA MAGAZINE awards are announced.

5. Prints on rough or linen-finish surface, and sepias, are not suitable for reproduction, and should be accompanied by smooth prints having the same gradations and detail.

6. Each print entered must bear the maker's name and address, the title of the picture, and the name and month of competition, and should be accompanied by a letter, *sent separately,* giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks sent at request. Criticism at request.

7. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA MAGAZINE, unless for special reasons. This does not prevent the photographer from disposing of other prints from such negatives *after* he has received official recognition.

8. Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with data.

9. Prints should be carefully packed between two layers of cellular board so cut that the corrugations run at right-angles to each other.

Awards—Beginners' Competition
Subject—Miscellaneous
Closed September 30, 1925

First Prize: R. Sawaji.
Second Prize: Godfrey Priester.

Honorable Mention: Miss Jean Goldsmith.

Now for the Beginners of 1926

ALTHOUGH every detail is not yet worked out, it is possible to say, at this time, that the January, 1926, issue will have some changes. One of them will be with regard to this department. The beginner rightly deserves greater consideration and more space, and he is going to get it. Right here, let it be understood that every beginner, young or old, will be entitled to the best service that PHOTO-ERA MAGAZINE can offer. By service, I refer to answering questions, making suggestions, co-operating in the matter of selecting photographic apparatus, criticising prints when requested and doing whatever can be done to help every beginner make a success of photography. The great increase in correspondence during the past few months seems to testify that we have been able to do something to help our readers enjoy their photographic work and get good results.

This department will be enlarged to include more material especially selected for the beginner. Also, we hope that beginners will write in often and give accounts of their experiences for the benefit of all. No matter how trivial a certain incident may be; who knows, it might be of great value to some one who was just beginning. For example, let us suppose that one reader uses a color-screen for the first time, has some trouble with it, but finally masters it successfully. Would not the account of his experience be very helpful to some one else who was going to use a color-screen for the first time? The exchange of experiences among those who are really interested in one subject, and thus banded together, is invaluable. Not only is practical information obtained; but a certain comradeship is established which is really vital to the growth and prosperity of any organisation or group.

It is hoped that every reader of PHOTO-ERA MAGAZINE who is a beginner, and those who are advanced amateurs, will lend a helping hand to make this department a source of practical help, good will and splendid comradeship. It will all be informal, just a friendly get-together monthly meeting for beginners and their friends. There will be no cut-and-dried procedure, announcements or rules for the material in this department. Let all contribute for the benefit and pleasure of all, just as they would do were we all seated together in a cosy club-room. Some material will be formal and some with a bit of humor; but whatever it is, each item will be selected for its practical or inspirational value to the beginner. There is a great need for just this help, and encouragement for the beginner, and PHOTO-ERA MAGAZINE, with its editor and publisher, has decided to make a sincere attempt to meet it during the coming year.

A. H. BEARDSLEY.

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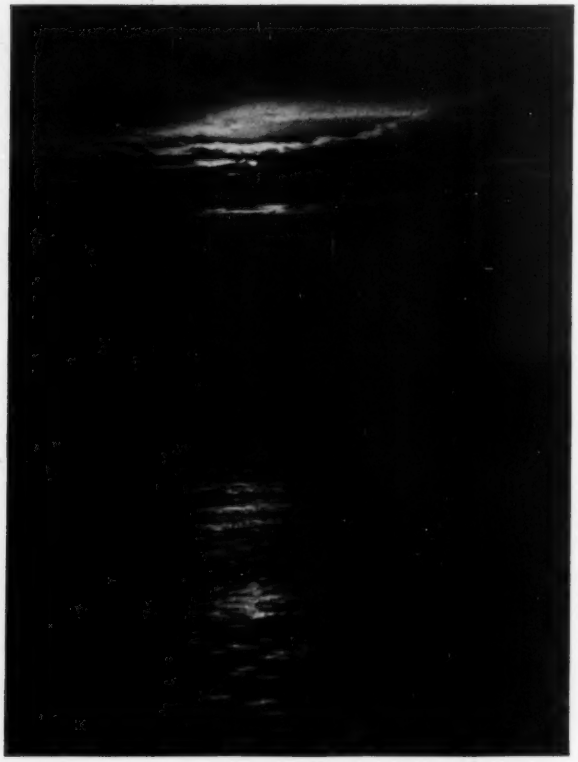


THE SETTING SUN R. SAWAJI

FIRST PRIZE—BEGINNERS' COMPETITION

Beginners' Competition

ALTHOUGH the Japanese who takes up photography as a serious pastime, even without a knowledge of pictorial composition, is a beginner, he almost immediately shows that he is an artist. Why? Because he is an artist by instinct, intuition, nature—call it what you like. I dare say that the intelligent observer who has traveled in Japan, will concur in this opinion. This preamble leads directly to the consideration of "The Setting Sun", by R. Sawaji, which adorns this page. As for myself, I frankly confess that I have surrendered to the charm of this little masterpiece of pictorial photography which I regard in the light of a work of art. A feeling of mystery seems to pervade this aquatic scene. This feeling may yield to one of solemnity—even of sadness, if the beholder happens to be depressed in spirit at the time. But then, seriousness seems to be a characteristic mood of the Japanese, and nearly all of their beautiful work in photography that has come to my attention has been distinguished by this quality. Of course, the feeling of approaching night in Mr. Sawaji's sunset may have been enhanced by a little overprinting. Not having witnessed a sunset on the Pacific Coast, I am not prepared to comment on the tonal value of the print of which the present halftone is a faithful reproduction. As to the composition of what many may at first regard as a moonlight-scene, I feel that what appears to be the bow of a craft, at the right, is several degrees too prominent. As a balance to the boat in the foreground, it seems overpowering. Some other suitable, but smaller and, perhaps, less distinct object would serve this purpose better. The management—though very indirect—of the reflections is very happy, as it is secondary in importance to the source of light above. The division of sky and water is very judicious in the circumstances. Whether the print, as a whole, is in too low a key, I am unable to determine.

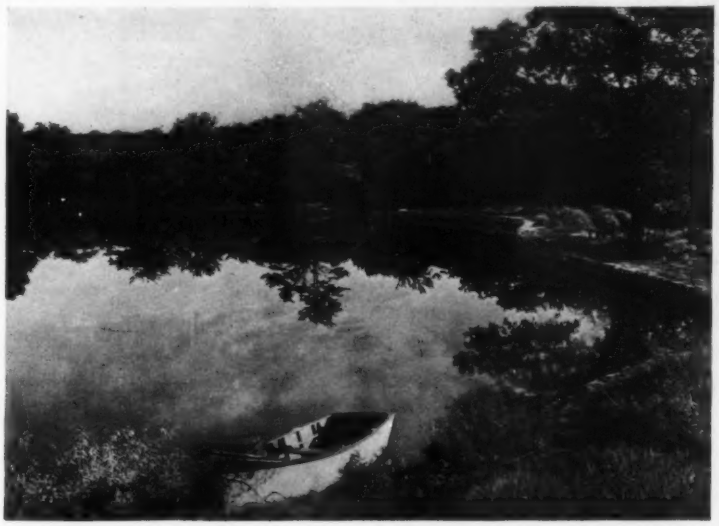
Data: Made near Seattle, Wash.; August, 7 P.M.; 3¼ x 4¼ Graflex; F/4.5 Zeiss lens; used at full opening; 1-25 second; film; M. Q.; bromide enlargement.

"Reflections", by Godfrey Priester, is extremely attractive. How much the boat adds to the beauty of the scene! The observer, critically inclined, may wish that it were placed farther to the left or to the right. If he does, he will find it hard to select a spot better than the present one. Being the most conspicuous object in the picture, it might suggest a more appropriate title than the present one. The reflections

appear to be too clearly defined to pass as an artistic feature of the view. Being so much farther away from the eye of the spectator than is the boat, the central reflection ought to be subordinated, and the others likewise. The camerist was wise to select a time when the reflected sky included clouds, although none appear in the part near the horizon. On the whole, Mr. Priester, an able technician, has done remarkably well, evincing a creditable understanding of balance in composition and, certainly, a discriminating eye in the selection of an attractive camera-subject.

Data: September 16, 8 A.M.; exposure made against the light; Hauff "Flandrin" plate; Hauff Metol; Carl Zeiss Tessar F/4.5; stop, F/8; yellow screen; 1½ seconds; Velox print; Velox developer.

WILFRED A. FRENCH.



REFLECTIONS — GODFREY PRIESTER

SECOND PRIZE—BEGINNERS' COMPETITION

Concerning Pinholes

TRANSPARENT pinholes and similar defects in the negative cause a blemish on the print which must be corrected; but, like other work or alterations made upon the original, it should constitute a real improvement and not become too obvious to the beholder. Pinholes that are tiny may frequently pass unnoticed, in small contact prints; but when such a negative is used to make enlarged prints, the hole in the stocking becomes conspicuous, as will also all other defects in the negative.

The usual procedure is to spot out upon the negative all transparent holes which print black and the resulting white spots which then appear upon the print are in turn treated in a like manner. This is done because it is easier to modify a white spot on the print than to remove a black one. If this in practice has not proved as simple as it looks, try again.

Take a small, No. 1 camel-hair brush and fill with color. Then upon a sheet of glass or something similar draw the brush, with a circular motion, to a fine point. Do this several times in fresh spots upon the glass until just enough color remains in the brush to make a small dot. Holding the brush perpendicularly a single touch is then made covering the spot in the negative or upon the print. If this does not cover, other similar dots, to fill in the area, are added; but not blended together. When these are dry, further work can be done filling the intervening spaces and completing the job; but any attempt to paint over a sizable spot at the first application is what invites the trouble. In such a case, most of the color applied will inevitably be drawn from the center and form a ring around the edges, the only remedy for which is to remove all color and begin again.

Opaque is useful to spot the negative or watercolor if desired, say, ivory black; but for the print the requirements call for spotting that corresponds in depth of tone and color with the adjacent or surrounding portion of the print. The more perfectly the colors are matched the better the result. Regular spotting-colors furnished by dealers usually consist of a set of at least three, black, white and sepia, with which the exact shade is obtained by mixing in the right proportions. Much the same can be done with good watercolors, if these happen to be more available.

Unless one is blessed with exceptionally good eyes, a glass of some kind is a great help. A reading-glass is commonly used; but a folding, pocket magnifying-glass for this and many other uses is something of a real treasure.

CHARLES A. HARRIS.

Not Photographs—surely

DAUGHTER—"What did the specialist say about Auntie's frightful attack of kleptomania?"

Mother—"He said she must take things more quietly in the future."

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OUR CONTRIBUTING CRITICS

ROSE-STUDY EDGAR B. SMITH

THE PICTURE CRITICISED THIS MONTH

Whoever sends the best criticism (not over 200 words) before the last day of the current month, will receive from us a three-month subscription to PHOTO-ERA MAGAZINE.

The winning criticism, in our opinion, is the first one printed below. Criticism should be helpful and courteous.

A FLOWER-STUDY—like the *étude* of our musical friends—implies the practice of particular and technical execution. Especially is this true of the rose, whose surpassing beauty lies in the delicacy and quantity of its color-gradations. Since these cannot be reproduced, color-effects must be achieved by tone-gradations.

This calls for technique of a high order, involving a correctness of exposure adequate to render texture in both flower and leaf, and a sense of tone-relationships which makes for beauty and gives an appearance of Nature—the true function of a picture.

Mr. Smith's effort, although pleasing in many respects, lacks the subtle distinctions of high excellence. Inadequate exposure, faulty lighting, composition-defects and an obtrusive background contribute to a hit-and-miss distribution of high and low tone-values, which is unreal, disturbing, inharmonious.

Reconstructive criticism suggests a reduction of tonal-contrast to the minimum, effected by improvement in illumination and background; a broader lighting so directed as to avoid reflections and the casting of dark shadows; a uniform background of a soft gray tone, relieved only in its lighting, receding and acting only as a foil; better subject-material—free of evidences of clipping—and an arrangement of same according to natural growth.

Correct exposure will then give the animation and daintiness desirable in a rose-study.

J. W. ADAIR.

Unbalanced composition is the first point to be considered in a criticism of Mr. Smith's "Rose-Study". The flower in the lower right-hand corner could well have been excluded as one can note by placing a piece

HELL POND, CAMF DEVENS, MASS. E. J. ESCOPAS

YOUR CRITICISM IS INVITED

of paper over this part; in fact, were it entirely omitted the print would be greatly improved.

Evidently a suitable filter was not used, for had it been, the tone-gradations of the greens on the leaves and stems would have been more pleasing. The darkness of the greens offers too much contrast to the whiteness of the blossom.

The partially opened bud is well lighted and composed and one would like to see a study of this one bud and stem alone.

The uppermost blossom is not placed well; could it have been tipped toward the camera (as is the bud) it would have been more effective.

I am inclined to believe that the picture was underexposed and that perhaps no ortho or panchromatic film or plate was used, as the whole effect is too contrasty and harsh.

L. G. WELLS.

Mr. Smith's print entitled "Rose-Study" has many commendable features. The background is well chosen and of such a nature that the white roses are thrown into relief. As the lighting and exposure have been wisely planned the leaves are subdued in tone and, therefore, do not compete in interest with the principal subject—the roses.

Nevertheless, we find several defects which command our attention. One feature is particularly noticeable—the lack of a central point of interest. The eye does not voluntarily rest upon a single portion of the print for any length of time, due to the fact that the three roses are individually clamoring for attention, so to speak—the gaze flittingly leaps from one to the other. The three separate elements are pulling in opposite directions which is very destructive to the unity of the whole. Another natural result is the production of a restless sensation which, I believe, the photographer had no intention to suggest. In a word, too much has been included in the picture.

Photograph one of the roses separately and see whether the "study" is not improved. Then, you will doubtlessly have an intimate view showing detail clearly enough to delight a botanist and at the same time a simplified composition with an improved unity of purpose and containing, to a greater degree, that symmetry so dear to the hearts of pictorial workers.

ARTHUR L. MARBLE.

A Dollar Tripod

DON'T you hate to have a friend get the best of you in finding a bargain, then have him come around to you and "rub it in"? A couple of years ago I picked up an Engineer Corps Graflex tripod for what I considered a wonderful bargain—$2.95. A friend saw mine, asked where I had purchased it, went there, found that they were being closed out, and bought one for a dollar. No doubt this lot has been sold out by now, so I won't be accused of advertising it.

This tripod is very handy for occasional use with a heavy graflex, for it is only about three feet in height; but I use mine quite often with a view-camera, and with a tilting-top it is very useful to photograph small objects, or to do copying, with the camera in a vertical position. The tripod is so heavy and rigid that one can sit on it without straining it or noticing any tendency to wobble.

Although a heavy tripod is a nuisance, I remember one time when I was glad to have one in hand on a long hike. Coming home one night with camera-case in one hand, folded tripod in the other, a stranger stepped out in front of me on a dark block and asked what time it was. Instead of pulling out my watch I fell back a pace or two and told him it was just about ten o'clock. Whether he took the tripod for a club, I cannot say; but he thanked me and passed on, and I still have that old watch. Maybe he was honest. Quien sabe?

PERRY D. FRAZER.

OUR ILLUSTRATIONS

WILFRED A. FRENCH

OUR readers, including new workers eager to picture the snow-covered landscape, will welcome this issue, because it is partly devoted to that seasonable subject. The initial illustration—frontispiece and cover—represents a typical winter-scene; but where, the camerist has neglected to state. It is probably somewhere in New England. The worker was doubtless interested in the foreground as an important feature in his pictorial scheme. It is well that he shows the bushes in their entirety, for many an amateur would be tempted to eliminate their base and, incidentally, omit the monotonous area, nearly an inch wide, which constitutes the immediate foreground and stretches from one side of the picture to the other. With a similar horizontal band of snow, right above it, although varied by intersecting bushes, and two more farther away from the observer—a very broad stretch and a narrow one just beyond, near the horizon—the picture threatens to become wearisome, were it not for the numerous trees and bushes which partly conceal them from view. Human and animal interest is present in the form of a horse-drawn vehicle, and the building in the center of the picture suggests human habitation. The large, deciduous tree, in the foreground, is the principal object here, and with the barn and the group below it forms a somewhat crowded mass. Were they placed farther from each other—the result of a different viewpoint, perhaps—the composition might be better than it is. The disappearing sun, fortunately, gives a touch of beauty to the somber sky and a ray of cheer to the declining December day. Mr. Tracey is to be commended for the amount of thought and effort he has given to create a picture that appeals to the imagination of the spectator.

Data: December, dull light; 1A Special Kodak fitted with Kodak Anastigmat; stop, F/6; 1/25 second; Kodak roll-film; pyro; print, P. M. C. No. 1 Contrast.

A member of the Union Camera Club of Boston, Raymond E. Hanson, who has produced a large number of winter-landscapes, each a masterpiece of pictorial composition and scenic beauty, remarked, recently, that to convert a snowscape into an attractive picture required an observant and critical eye, also much patience and physical effort. That is obviously correct. But if he were to tramp through mountain-regions, equipment in hand, in search of artistic subjects, as Mr. Emmens has, he might find his task very arduous and exhausting, and subjects of the kind that would appeal to him, not so numerous as nearer home. The examples of winter-photography that accompany Mr. Emmens' instructive and entertaining article—pages 305 to 307—reflect the author's sense of beauty, critical discernment and technical skill. In looking at Mr. Emmens' illustrations, the discriminating beholder will derive the most satisfaction when he comes to "The King's Highway", with its pleasing structure and transparent, well-placed shadows, and "Silver-Cup Peak", artistically arranged and skilfully photographed. Data will be found in the article.

"The Hawthorns in September", page 308, shows that the photographer has an eye for artistic arrangement. He has chosen a pleasing field of flowers for his foreground, thereby enhancing the beauty of his group of hawthorn-trees. No data.

The motto, "Say it with Photographs", is a trite one; nevertheless, it is appropriate and timely, if the reader will adopt Mr. Jones's suggestion, as illustrated on pages 311 to 313. It is a happy and practical variation of an idea similar to several described in this magazine during the past few years.

Comparisons are said to be odious. All the same, I cannot refrain from recalling the recent, and successful experience of Mr. A. H. Beardsley as a beginner, as related by him, and illustrated with aërial photographs made by him on his maiden-trip, in the November issue, 1925. Then, I read the story of another photo-aërial novice, published in this issue, and note how well he, too, has succeeded. His technical difficulties are about the same as those encountered by our Publisher, but told in a different, although extremely interesting way. Several of his pictures, on pages 316 and 319 impress one as being eminently satisfactory, and complimentary to his courage, coolness and photographic skill.

As we all are interested to see what our friends in Argentina are doing photographically, we are enabled to look upon a scene that is reminiscent of old Spain, page 331. A journeying monk has just descended from his faithful mount and is offering his devotions to a wayside shrine. The spirit of this simple, religious ceremony has been admirably interpreted by the photographer, A. Mondelli. In the language of the movie cameraman, it is a "close-up". Sorry; but I should like the picture better had the camerist stood farther back. Then, too, the pilgrim's hand, white hat and tassel irritate my artistic feelings by being in so high a key, as they are the only highlights, with the exception of the donkey's nose, in the picture. Unless the hat have some special significance, it were better if it could be lowered in tone and become a less conspicuous and disturbing object, although its importance as an accessory cannot be denied. The treatment of the shrine and the background is admirable.

Honorable Mention

THE "Wild and Cultivated Trees" competition was highly successful in point of quantity and quality of the entries. By consulting the list of names of participants who won Honorable Mention, page 334, the regular reader will recognise the names of not a few eminent pictorialists. Among them are two whose successful prints have been reproduced in this issue.

"The Elms", page 328, is an unique, attractive, and well-balanced composition. This means that sky and foreground, in their pictorial relation to each other, have also been treated with artistic discretion. If the artist, Mr. Johnson, could have contrived, by some legitimate means—in focusing, perhaps—to give the middle tree less prominence, that object would improve the entire picture. At present, it is just as distinct, in all detail, and of the same tonality, as the tree nearest to the observer, and in an artistic sense that is not right. As a piece of realistic photography, and as a pleasing pattern, "The Elms" is faultless.

XUM

Data: Made in Pittsfield, Mass.; July 26; 9.45 A.M.; bright sunlight; 5 x 7 view-camera; Turner-Reich Series II, F/6.8, lens; used at full opening; 8-time filter; 1/5 second; Standard Orthonon plate; pyro; print, Defender Professional No. 9 Rough.

"Salisbury Beeches" greets us fervently, lovingly. It is good to look upon these sturdy beech-trees as they appear in old England where they assume an individuality that may be associated with the doughty English race now facing problems and difficulties which, in national importance, are unequalled in the history of the country. Whether the artist of the impressive group, on page 332, will subscribe to these frankly expressed sentiments of mine, I am in no position to say; but it seems to me that, unconsciously or designedly, he has given a portrayal of one of England's noblest trees that symbolises an outstanding national characteristic of a people which may soon be fighting for its very existence.

Data: Made at Salisbury, England; August, 1922; bright light; IA Special Kodak (2½ x 4¼); 2B Tessar lens; stop, F/22; 1/10 second; Eastman roll-film; hydro; print, Eastman Royal Bromide.

ALTHOUGH "Christmas-Eve", page 338, appeared in PHOTO ERA as recently as last April, it is shown as an example worthy of emulation in "My Home" competition which closes January 31, 1926. Those who are interested in Elsa B. Versfelt's interpretation are referred to page 220, April, 1925, issue, where will be found my criticism, and the data.

Picturing a Popular Subject

As mentioned on the Editorial page of this issue, the observant camerist may notice an attractive pictorial theme created after a heavy fall of snow, *viz.*, a line of human footprints—straight or irregular. As this subject has attracted the fire of many picture-makers every year, since the beginning of amateur-photography, it has naturally become hackneyed. But this is no reason that it should be passed by. The only possible objection seems to be that, in view of the innumerable repetitions of its portrayal, this delightful and typical winter-scene is apt to suffer from repeatedly mediocre or conventional treatment, although it has been masterfully interpreted not a few times, as the pages of this magazine will testify. Those workers who are ambitious to do credit to their skill, and to the art of photography, may find it worth while to consult certain back issues of PHOTO-ERA and —to use the expression applied to the once popular autograph-album—

> "Turn these pages o'er and o'er,
> To see what others have writ before."

Some camerists may be content to imitate, as well as they can, some excellent example, without knowing, however, that the original may have been seen and admired by many others including, perhaps, those who are called upon to pass judgment upon the representation of the plagiarised theme. In these days of enlightenment, it ought not to be difficult to understand and to apply the principles of composition and chiaroscuro, and even to improve upon pictures which, years ago, were regarded as faultless. Such a subject as footprints in the snow, whether human or animal, is capable of being portrayed in many different ways, most effectively, however, when the sun of early morning or late afternoon casts lengthening shadows across the pedal crevices and neighboring objects—fences, rocks or trees. Another striking effect is produced by the mysterious light of the moon, the rays of a nocturnal camp-fire, or of artificial light. To this is added individuality of treatment, so that it is possible for a truly artistic, imaginative and resourceful worker to surpass a masterpiece that has adorned PHOTO-ERA when amateur-photography was young.

To facilitate the quest of reproductions, in past issues, of admirable portrayals of tracks in the snow, I herewith give a short list—the result of a hasty, at-random examination of several bound volumes:—"Snowshoe-Tracks", Dwight F. Boyden, June, 1909, and repeated in February, 1919; "Evening Light on Wet Snow", Robert E. Weeks, February, 1909; "Sunlight on the Snow", William Spanton, and "A Fresh-Broken Trail", Elgin Lessley, July, 1910; "A Winter-Landscape", W. Mizunuma, May, 1912; "Woods in Winter", R. A. Dowd, June, 1912; "A Country-Road", Will G. Helwig, April, 1915; "An Aspen-Trail in Winter", Elliott Hughes Wendell, June, 1918; "Winter-Sport", Alexander Murray, June, 1919; "In Winter's Grasp", Rupert Bridge, January, 1920; "November", F. H. Rodgers, March, 1920.

Guild of Photographers

THERE is an almost mediæval atmosphere about the Society of Arts and Crafts of Boston—a society of artist-craftsmen banded together for the purpose of marketing their work—in that it is composed of guilds of the various arts, by no means the least of which being the Guild of Photographers, as will at once be recognised when it is learned that among its members are such well-known pictorialists as George S. Akasu, Col. James M. Andrews, Dr. Coomaraswanny, Raymond E. Hanson, Dorothy Jarvis, Sophie Lauffer, Francis O. Libby, Ralph Osborne, W. H. C. Pillsbury (Dean of the Guild), Sara Knapp Russell, Gustav H. Seelig, Herbert B. Turner, Bertrand H. Wentworth, F. R. Fraprie, F. R. P. S. and many others.

The first meeting of the Guild of Photographers, of the winter-season, was held November 10, at the beautiful new home of Col. James M. Andrews, Godard Avenue, Brookline. At these meetings, one of the regular features is the criticism of prints brought by the members for the purpose. Here they receive kindly and helpful criticism by a competent critic, and are generally discussed by the members of the Guild. After the meeting, Colonel Andrews showed upon the screen about one hundred of his color-photographs of a wide range of subjects from New England to the West Indies, from floral decorations to marines, all of which were made with rare attention to pictorial composition as well as technique. The Guild-members were given an admirable opportunity to study the various merits and demerits of the Lumière Autochrome plates as compared with the color-plates made by Agfa, as Colonel Andrews showed the same subject first made on one plate and then on the other. The meeting, in common with all the Guild-meetings, ended after a delicious supper had been served.

A Lugubrious Designation

THE data which accompany prints sent to PHOTO-ERA competitions often contain names of foreign lenses together with the corresponding focal lengths in centimeters. I was greatly amused, therefore, when I received a print recently, with data that contained the following item, "Hekla lens, 12½ cemeteries"!

XUM

ON THE GROUNDGLASS

WILFRED A. FRENCH

Reclaiming Failures in Exposure

LOOKING over the results of a summer's work shown me by a camerist, introduced to me at the Boston Art Club, recently, I was amazed when he told me that fifty per cent. of his snapshots were complete failures. At my urgent request, he showed me the negatives, though somewhat reluctantly. Examining each one carefully, I found many double-exposures, some under-exposures, and not a few overexposures (made with camera resting on some convenient, firm base). Asked what he intended to do with the package of failures, the camerist replied, "Throw them away, of course," although he added that he would gladly give fifty dollars if the double-exposures could be saved. I told him to keep them for a while until I could obtain the address of a man (a photo-finisher) whom I met in London, at Houghton's, last May, who made a specialty of saving faulty exposures including "two negatives on one film"! He declined to tell me how he worked the last-named trick; but I fancy that it is a system of intensification and blocking out the subject to be saved. He said that in most cases he succeeded in reclaiming one of the double-exposures and, in one very important instance, he actually saved *both*—but he added, "my price was two guineas each, four guineas for both, and gladly paid."

Now, I suppose, what an English photo-specialist can do, can be done successfully by his American fellow. If this idea, of saving double-exposures, should be new to us, over here, it is for skilful photo-finishers in this country to take it up. And they can make it profitable, too.

A Hint in Composition

WHILE at Durham, England—famous for its great Norman cathedral—last spring, I observed a camerist who was standing not far from the western Bank of the river Wear and making a snapshot of the grand edifice towering high above the opposite bank. Instead of holding his camera so as to bring the imposing object near the top of the picture he coveted, he pointed it decidedly upwards, thus placing the great building too low in the picture-space, thereby sacrificing the effect of height which must have impressed him. As I happened to be near the snapshooter, I ventured to explain to him the result of the exposure he had just made. At my suggestion, he consented to make another in which he held the instrument directly ahead—*without tilting it upwards*. He was sufficiently interested to ask for my address, offering to send me a print of each. The two prints arrived—would you believe it?—on my birthday, September 17! The print from the exposure made first was marked, on the back, "Unsuccessful"; whereas the other (made from the second exposure) was labeled, "Just right!".

Her Most Precious Possession

YOUNG girl (pleading): "Oh, Mr. Holdup-man! Keep my purse and rings, but give me back my powder-puff and mirror!"

Expansion and Contraction

WHILE luncheoning at an old farm-house that served as a temporary wayside inn, in northern New Hampshire, last summer, I noticed signs of rapid disintegration. In the room that served as office, lounge and reading-room, I observed several bromide enlargements of landscape-subjects of great size which, unmounted, were fastened at the corners to the walls of the place by means of large thumb-tacks. What puzzled me was that, instead of being taut, the edges of the prints were loose. There was considerable play behind the four edges of each print, which, instead of being flush with the wall, bulged considerably. Not satisfied with the slovenly manner of attaching these really interesting prints, I questioned my host, who explained that the old place was slowly going to pieces. The chimney was coming apart and the walls were cracking. At this point, he showed me numerous cracks in the walls of the room in which we were sitting, which, he said, were gradually widening. It was for this reason that he had fastened the enlarged photographs in the way that he did. As the walls expanded, the prints contracted—a method the old farmer had adopted to keep the prints from being split or torn. Rather ingenious and simple, I thought.

Hazardous Snapshooting

A CAMERIST of my acquaintance told me how he lost the good will of a pretty girl whom he met at a summer-resort, last August. He merely snapshot her. Unhappily, as it turned out, she was unprepared—no facial make-up, not carefully posed. He had her consent to supply a picture of her to the leading local newspaper, for the society column; but it did not occur to him to show her a proof.

The moral of this incident would be to co-operate heartily and carefully with the owner of a pretty face, particularly when she is so painfully critical as in the above-related instance.

Misplaced Nonchalance

CUSTOM-HOUSE officer (to American tourist returning from his first visit to Canada): "What's in those two leather cases?" pointing to the articles in the tonneau of the car.

Tourist (an amateur-photographer) carelessly: "Those are my camera, plates, or something."

Officer: "Let me see the something. Never mind the rest."

Misunderstood

WHEN Hayes, the eminent photographer was engaged to address a class of young women on the subject of photography, he began (tactfully) in this wise: "As I look on your bright and shining faces—", at once twenty-seven powder-puffs were brought forth and applied vigorously.

THE CRUCIBLE

A MONTHLY DIGEST OF PHOTO-TECHNICAL FACTS

Edited by A. H. BEARDSLEY

How to Make a Positive Film by Reversal

THE most important factor in the successful production of good positives by reversing the negative-image is correct exposure. The negative-image before reversal must be of only such density as to allow a corresponding quantity of undeveloped silver to remain for development as the positive image.

This means that any overexposure and consequent overdevelopment will leave too little undeveloped silver behind, and thus the positive image will be weak and thin. On the other hand, underexposure will leave too much undeveloped silver, and the positive will be heavy and dark.

A Suitable Developer

The developer which I have found to be particularly satisfactory is the following:—

Hydroquinone	10 grains
Sodium sulphite (cryst.)	80 "
Caustic soda	10 "
Potassium bromide	4 "
Phenosafranine solution, 1/1,000	50 minims
Water	2 ozs.

This developer will be found very clean in working, and will produce results almost identical with those given by the paraphenylenediamine in the maker's formula.

The solution of phenosafranine is added not so much for desensitising, as to exercise a slight retarding-action upon development, and at the same time to keep the shadow portions of the negative clean. It should therefore on no account be omitted.

The normally exposed negative should begin to show some sign of image in about one minute, and if this is the case development is carried to a total time of fourteen minutes. If the film has been overexposed, and the first appearance of the image is apparent in twenty seconds or under, only six minutes' development will be required; while with underexposure and an appearance time of 1½ minutes, development must be carried to the full time of twenty minutes. Longer development tends to give a very grainy image.

When development is completed the film must be washed very thoroughly, as the carrying of developer into the reversing-bath is likely to cause stains and to give uneven reversing-action. The washing must be done in the darkroom.

The negative-image has now to be dissolved out, leaving the undeveloped silver to form the positive.

The reversing-bath may be made up in the following proportions:—

Potassium permanganate	2 grains
Sulphuric acid, concentrated	10 minims
Water	2 ozs.

The film having been thoroughly washed is placed in this bath, and allowed to remain for ten minutes. It will be noticed that the black image becomes dissolved out, showing an opaque positive image.

At the end of ten minutes the film is removed from the reversal bath and washed in running water (in the darkroom), and then taken out into the white light

A satisfactory clearing-bath can be made by dissolving sodium sulphite in water, and then, when it has all dissolved, adding a little sulphuric acid. Suitable proportions are:—

Sodium sulphite (cryst.)	10 grains
Sulphuric acid (conc.)	5 minims
Water	2 ounces

The color of the film upon removal from the reversing-bath approximates deep red; but after a few minutes in the clearing-bath this color disappears, and the film becomes of a whitish color.

At this stage the film must be closely examined for black spots, which appear in the negative-portion, and are due to air-bubbles on the surface which will prevent complete reversal. If such spots are visible the film should be well rinsed in water and returned to the reversing-bath for two minutes; after this, washing and clearing are again necessary.

The film is now ready for the final blackening of the image. This may take place by immersing the film in an ordinary developing-solution, which in my hands has given perfectly satisfactory results. The developer first used may be kept and used for the second darkening. The Pathé instructions recommend a solution composed of bisulphite lye and sodium hydro-sulphite, which is said to give an image with a finer grain. The bath is made up as follows:—

Bisulphite lye	30 minims
Sulphuric acid	2 "
Sodium hydrosulphite	10 grains
Water	2 ozs.

In making-up this solution one must be very careful to secure the right salt, which is *hydrosulphite* and not *hyposulphite*. To prevent any mistake, the formula of the correct substance to use is $NaHSO_2$. It is not stocked by chemists and druggists in the usual course, but could be obtained to order, or direct from one of the manufacturing chemists. It is also supplied ready for use in the sets which are being issued by the Pathé Company.

The positive image quickly gains density in this bath and assumes a good, black color.

Darkening is complete in about three or four minutes, especially with a freshly-made bath. Old baths fail to darken the image completely, or produce an image of brownish color.

After blackening, the film is washed in running water from ten to fifteen minutes, and is then ready for drying. To facilitate the drying of the film it will be found best to transfer it to a dry-frame. During the transferring, that is, winding from one frame to another, the film should be wiped on both sides with a piece of clean wash-leather, soaked in water and squeezed nearly dry. This will remove all adhering matter, and leave the film clean and free of markings due to lime.

Drying should take place in a current of dry air, and should be completed in about twenty minutes. Prolonged drying is likely to produce "tear" markings on the film, which are very difficult to remove. If it is possible to hang the film in front of an electric fan, drying will take place very quickly and effectively. On no account should it be warmed by placing it in a hot cupboard or in front of a fire.

H. H. FEATHERSTONE in *The Amateur Photographer*.

XUM

THE AMATEUR KINEMATOGRAPHER

HERBERT C. McKAY

THE amateur kinematographer demands attention and he will get it. You are probably all familiar with the name of the New York Institute of Photography of New York. This school has the reputation of being not only the largest, but one of the best photographic schools of the world. The president of this school, Mr. Samuel F. Falk, when approached by the editor of this department concerning a course of instruction for amateurs, gave careful consideration to the proposition and stated that the school would probably institute such a course of instruction in the near future. If this is done, it will be a step of great value to the amateurs and will result in making the miniature camera even more popular in that it will enable the owners of these cameras to obtain far better results than would otherwise be possible. Anyone interested might write to the school with regard to this step. In case any considerable amount of interest is shown, the inauguration of this course will probably be assured.

At the same time, Mr. Falk gave me the description of the new motion camera which is to be issued to the students of the motion-picture school. The present camera is not the type desired by the faculty, so that this new model has been rushed through and will be in use when this article is printed.

The camera is built along the lines of the Wilart news-model. That is, it has a unit body, with outside magazines. The Wilart model had the Geneva sprocket intermittent; but this new camera has a harmonic-cam movement, the highest type of film-movement used in any camera. The camera, as will be seen, is attractive in appearance, and is capable of making professional quality film.

The detailed specifications as given by Mr. Falk are: *Body*, Case and magazines of aluminum alloy, finished in glossy, black enamel; *size*, 6½ x 6½ x 7¾ without magazines; *weight*, 12¾ pounds with magazine; *capacity*, 200 feet standard-gauge film; *finder*, direct vision; *lens*, Special Kiné Velostigmat F/5, two-inch. Any standard kiné lens may be substituted; *focus*, by scale or by inbuilt visual focusing device; *shutter*, 180-degree fixed shutter; *intermittent*, harmonic-cam; *magazines*, outside, metal, double; *take-up*, visible spring-belt; *movements*, normal and reverse. Single crank supplied at slight additional expense; *film-meter*, inbuilt, set-back meter; and *masks*, mask-slot provided for all trick and double-exposure work.

It will be seen that the camera, as described, compares favorably with many topical cameras; and, as it is, would be a splendid instrument for the beginner in topical work. However, as the New York Institute is in a position to understand the problems which confront the beginner, it has made this camera in such a manner that many accessories may be attached at slight additional cost.

Magazines are furnished which have a capacity of four-hundred feet. This is an obvious advantage when a large footage is necessary at one location. Any desired type of finder may be mounted. All standard kiné lenses may be mounted. The manufacturers of the camera also provide a special micrometer lens-mount for ultra-critical focusing.

A four-lens turret is made which can be easily mounted upon the camera in place of the original lens plate. This gives the advantage of having a full battery accessible at all times.

The regular shutter may be replaced by an automatic dissolving-shutter. A single crank is provided for animation and trick-work. Veeder-counters reading in frames, turns or feet may be obtained for this camera. Any standard effect may be attached to the camera.

Any standard tripod may be used as the camera is provided with the standard motion-picture tripod-socket. The tripod made for the camera is a light-weight pam-and-tilt tripod and sells at $37.50.

The standard unit camera, as first described, is ready for straight work without any extras, except tripod and film. For sale to those not members of the school, the camera with an F/3.5 lens instead of the F/5 will sell at a price somewhere between one hundred and one hundred fifty dollars. It will probably be close to one hundred and twenty-five dollars. The extras may be purchased at any later date and added by the owner. This gives amateurs the opportunity to obtain, at a very low cost, a camera which has most of the advantages of the high-priced professional cameras.

The inferior light outdoors, the short days and low temperature now begin to keep us indoors. This winter is the time to try interior work. This will necessitate some kind of artificial light-source. An extremely strong light is not absolutely necessary. Remember that the intensity of light reflected from an object varies in inverse ratio to the distance of the light-source, as well as variations with the color. A light may be placed close to the subject, and with suitable reflectors it need not be overly bright. A small, home-portrait style arc-light should supply all the light necessary for a well-lighted scene, if made close up. This with an incandescent spot-light and one or two 250- or 500-watt incandescent flood-lights will be ample for small scenes.

If you wish to try out bizarre lighting you will find that an incandescent spotlight alone will give accentuation against a black ground which, if properly handled, will result in weird, yet fascinating effects.

For full lighting of a room, say twenty feet wide, with an eight-foot depth of working-space, from six to ten twin arcs should be used, if diffusing-screens are used with the lights. In this case, not less than two spot-lights should be used with the arcs for accentuation. However, this is quite an ambitious performance for the usual amateur. In professional work, even more light than this is used. On the contrary, quite a lot of industrial kinematography is accomplished with two portable twin arcs. It is difficult to give accurate specifications for lights, as the color of the subject, the color of the walls, the number, kind and arrangement of reflectors, the subject, the area illuminated and the result desired all have a bearing upon the problem. Trial-exposures may be made with a small still-camera. Thus if the light is sufficient to give you a good still-film with one-fifth second exposure at F/8, you may be sure that you will get good motion-film at F/3.5. Such test-films may be developed

immediately after exposure. Not more than a half hour should be necessary for the completion of the tests. After the first one, it should not be difficult to determine the lights necessary for any interior work, as one operator will work under similar conditions at almost all times.

If you expect to work under widely varying conditions, the only safe way to determine interior exposure is with an actinometer using sensitive paper. The Bee meters are typical. Such a meter may now be obtained which has been especially designed for use with the new miniature cameras.

Popular Kinematography

Chapter Three

The Choice of a Camera

There are various considerations in the choice of the camera. Before we can make such a choice intelligently, we must understand the requirements of the camera itself. Only when we possess such knowledge may we be able to judge the virtues of the instruments offered.

A camera is, first of all, a dark chamber, as we may learn from the name itself. This chamber must exclude all light except that which we have under our control. Therefore, the camera-body must be so made that, although the interior is readily accessible, the doors will close in such a manner that a light-tight joint is effected. It must also be so constructed, that it will continue to do this after years of service. This means that the material should be unaffected by climatic changes—subject only to negligible wear—and accurately made. There is no doubt that metal is the most serviceable material for the construction of the body. Hinged doors should be provided with ledges or grooves which break any straight path through the joint. A comparatively loose but broken joint is more serviceable in stopping light than is a tight, straight-line joint. Screw-caps are the most perfect joints, but awkward in manipulation. A hinged, light-trapped door with positive locking arrangement is very satisfactory.

Into this dark chamber, light must be admitted under control. As daylight varies constantly, we must have some means of regulating the amount admitted so that the film will be affected uniformly at all times. This control is exercised by means of the diaphragm. This may be the familiar iris which works between the lenses, or the more simple rotating stops used by one manufacturer. Both systems have advantages. The iris is placed in the theoretically correct position, between the components of the lense. The opening may be infinitely varied, but it is inadvisable to use any stops except those marked until one becomes thoroughly proficient. Care must be taken to have the two indices exactly opposite, otherwise the value of the opening will not be accurate and exposure-calculations will not be correct. The rotating stops are of unalterable value and are held in the correct position by a spring action. In practical work, this system gives results in every way as satisfactory as those obtained by the iris. The advantage is that the value of the stop is in each case unalterable. Furthermore, the lens lies behind the diaphragm-plate, and is thus effectually shaded. The choice between the two systems is only one of personal choice.

The light-rays must be controlled as to direction as well as to volume. This control is effected by means of the lens which is the eye of the camera. There are a variety of lenses available for photography, ranging in cost from a few cents to many dollars. The difference in these lenses, disregarding technicalities, lies in the degree to which they give a sharp image over the entire surface of the film.

The simple lens which is used in box-cameras will give us a picture which looks very well in a contact print; but straight lines are bent, and some are blurred. No part of a negative made with such a lens will stand any great degree of enlargement. Moreover the amount of light admitted is small, so that long exposures are required, except when bright sunlight is available.

The double lenses, usually known as rapid rectilinear lenses, give us undistorted lines; but when the center of the picture is sharp, the edges are blurred. This is not apparent in contact prints; but remember that the image on the motion film must be enlarged 100 diameters! Thus it is evident that we must obtain a lens which will give all lines absolutely sharp. That is, with not more than 1/500 of an inch blurring. To obtain such results, an anastigmat lens is necessary. These lenses are so difficult to manufacture that they are of necessity somewhat expensive. When we add the requirement of large opening, in order that we may make the required instantaneous exposure in dull light, we require the finest product of the lens-maker's art. The usual motion lens has an extreme aperture of F/3.5. In other words, the amount of light admitted is such that we may obtain a fully timed film in approximately one twenty-first of the time required to get a similar negative in a box-camera. Thus, when we may make good motion film at the full aperture, we should have to give an exposure of nearly three quarters of a second with the Brownie camera. This is basing the motion-picture exposure upon 1/28 of a second, the slowest possible exposure.

Were we considering a still camera, this would about exhaust the list of essentials; but as we are considering a motion camera, we must assure ourselves that an efficient means is provided to move the film. This is of far greater importance than we realise at first thought.

If we project an image thirty by forty inches in size, we have an enlargement of one hundred diameters. Now let us suppose that we have a camera in which the film does not move uniformly. We will consider that the film, which is supposed to move forward three tenths of an inch at each exposure, fails to do this by a margin of one one-hundredth of an inch. That is, the movement might be in this order in five consecutive steps, 0.1–0.09–0.095–0.105–0.105. Upon the screen the first frame will be in its correct position, the next will drop one inch, the next will drop a half inch, the next jumps a full inch, the last will jump a half inch. This means that a variation of 1/100 of an inch in the film-movement will cause the image to dance over the screen in a maddening fashion. The film must move forward with less than 1/1000 of an inch difference in the relative positions of the frames exposed. This means that the mechanism must be delicate, yet rugged enough to stand the strain of making from twenty-eight to thirty-two complete cycles each second, working against the pull of the film.

The mechanism which does this is known as the intermittent. In professional cameras this is usually a complex arrangement known technically as the harmonic-cam mechanism. In the smaller cameras, a simpler mechanism, is used. This is usually a claw working in an interrupted circle. This movement, similar to the piston of an engine, changes continuous circular motion to alternating oscillations. The simpler it is the better, always provided that it gives

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satisfactory service. The intermittent provided in the available sub-standard cameras is reliable, regardless of the make of camera. New cameras, that is, new models, should be examined in this particular first of all.

The film must be fed from one receptacle and taken up into another. These are not integral parts of the amateur camera, but are furnished by the manufacturer of the film. The camera, however, must be provided with some movement whereby the exposed film may be wound into the container. This is known as the take-up. The take-up is not a simple apparatus. As the film is wound on to the spool, the diameter of the reel increases. This means that the film will be taken up faster and faster; but this is impossible, as it must feed through the camera-gate at a uniform rate of speed. Therefore, the take-up must be provided by some arrangement which will allow it to slip when a certain amount of strain is placed upon the film. In amateur cameras this is usually provided in the shape of a clutch which slips at a certain tension. Professional cameras have spring-belts running over pulleys. At a certain tension the belt slips upon the pulley.

The intermittent is provided only for the purpose of moving the film properly behind the opening which we know as the aperture. The entire physical movement of the film cannot be effected by the intermittent, for such a demand would mean the destruction of the essential delicacy of movement in the intermittent. For this purpose a sprocket-wheel, or a pair of them are provided which pull the film along in a continuous motion. This relieves the intermittent of all undue strain.

The camera must also be provided with some means of indicating the amount of film used. This may indicate either the amount exposed, or the amount of unexposed film remaining in the magazine. This accessory is essential. Otherwise one would never know the amount of film on hand, for the camera operator has other things upon his mind than counting the crank-revolutions.

Finally, the film must be held in the proper position. That is the plane at which the lens focuses the rays of light. If the film is allowed to vibrate in the slightest, the image would be hopelessly blurred. The film runs past a polished plate of metal. In this plate is cut a hole the exact size of the individual frame, that is, three-tenths by four-tenths of an inch. This is the aperture. The film is held against this polished aperture plate by a spring arrangement known as the pressure plate. As the pressure-plate is usually hinged in order that the surfaces of both aperture plate and pressure-plate may be cleaned, the pressure-plate is sometimes known as the gate and at times the assembly of both plates is given this name.

Thus our camera must have a light-tight body, an efficient diaphragm, a good anastigmat lens, a reliable intermittent movement, a good take-up arrangement, a film-meter and a good gate which will not scratch the film yet which will hold it in position.

The cameras which are offered upon the American market at the present time are all reliable in these respects. The choice of a camera will then depend upon the purposes to which the camera is to be put and the price which one is able to pay.

Motion-Picture Portraiture

No doubt the ideal motion-picture of one's family and friends is the unrehearsed one, and it is doubly successful with the home-audience if the scenes have been taken without the actors' knowledge. It is rarely, of course, that an opportunity to do this presents itself, but a case may be mentioned to show that it is not impossible.

A friend of mine, who has a house with a garden behind it, and a fairly long path leading from the entrance gate to the front door, gave a garden party to which a number of neighbors were invited. Just beside the front door, and with a window facing down the path to the entrance gate, there is a small room. Here he was able to conceal his kinema camera, pointing out of the open window, through almost drawn curtains. All the guests, as they arrived, were filmed coming up to the front door to ring the bell. None were aware of the presence of the camera.

Afterwards, when the gathering was complete, and people were moving about in the garden at the back of the house, the scene was filmed from another window, which commanded a suitable view. The pictures, shown at a later date to an audience mainly composed of the persons appearing in the film, aroused much interest and a good deal of amusement. The various methods of approach of visitors coming up the path from the gate to the front door were in some instances quite comic in their betrayal of character.

But some of these scenes were a little spoilt, as can easily happen with work of an altogether unfamiliar character. Not that the motion-picture camera is unfamiliar as regards its main principles. These are, of course, only a modification of the photography that we are all used to; but we have to get used to the moving as against the still subject.

Movement so far from being something to guard against is something which we have to introduce or register; and we must remember that there is always a risk of our subject moving out of the picture altogether. The finder must be used not only when we begin turning the handle, but all the time of the exposure.

For instance, he wishes to photograph a mother and her child. The mother is shown seated on a chair on the lawn, and the child comes running and climbs on to her knee. Erect the camera in position, then signal the beginning of the small drama, watch the child's approach closely, and you will almost invariably find that, at the trial attempt, the thing is in some respect not done as well as it could have been done. And each of its wrongnesses suggests some improvement and perhaps some elaboration of the "business".

To begin with, the child must be instructed not to be in too much hurry. Movements must be—relatively—slow, and in any case not jerky. Naturally these remarks apply whether we are instructing a child or an adult. The particular drama mentioned is only used as a specimen case. Then it will be found that entrance from one side is better than entrance from the other; or perhaps a longish approach from the background is best. But, in any case, the approach must be such that the child does not have to cross over in front of the mother, masking her. And, when the child has climbed on to the mother's knee, the angle of vision must be such that at least the profiles of both are visible, or the full face of one and the profile of the other.

All these details will be the better for genuinely observant rehearsal; and it will be discovered that the "victims" enter into the spirit of the thing with great interest—especially when they are children. We are all, in secret, amateur actors, and the kinema camera gives us a delightful opportunity to display our individualities in a new and entertaining manner.

B. G. Kent in *The Amateur Photographer.*

THE MILITARY PHOTOGRAPHER

CAPTAIN A. H. BEARDSLEY, SIGNAL—RES.

Aërial Photography is Coming

APPARENTLY it required only the very elementary account of my aërial photographic experience to bring to light many military and civilian photographers who were deeply interested in photography from an airplane. The article by Russell T. Neville in this issue is a case in point. It was really amazing to note the response which came from all parts of this country. Out at Chanute Field, Rantoul, Illinois, where my own experience was limited to two weeks of active military duty, my efforts were considered to be part of the day's work and merely routine instruction. The results which I obtained were thought fair, taking into consideration my limited experience. So much better work was in evidence on all sides that I realised how far I still had to go to measure up to the splendid standards already set by such an aërial photographer as Captain A. W. Stevens of the Air Service. Whether or not I ever equal the work already done by others, I do feel that my introduction to aërial photography made me conversant with many of the problems which have to be solved, and that I am in a better position to try to do my bit to further this important branch of photography.

Perhaps, best of all, my experience has apparently encouraged other workers, in and out of the U. S. Army, to write of their efforts and thus much interesting and helpful information will be brought to light. The exchange of ideas and of suggestions is always of practical value. This is particularly true of aërial photography which is growing daily in importance as a part of National Defense and as part of the industrial and economic development of our country.

For the Photographic Work of the Army

WHAT follows in this little editorial is not an attempt to add to the burdens of the administration by suggesting or requesting an investigation of the U. S. Army with regard to what it is doing with photography. Rather what I have to say should be accepted as the impressions of one who is deeply interested in the efficient work of the army, particularly with regard to how, when and where photography may be used by the army as a part of national defense and national economic development. Let me add, that not for one moment would I pose as an authority or as one who is fully qualified to say that this is right and that is wrong. However, if by recording some of my impressions, I can encourage abler men than I am to help work out the photographic problems of the army, I shall be glad.

First, let me say that the Army of the United States, and the United States Navy too, may be proud of its photographic personnel. Although the number of expert photographers is pitifully limited by the appropriations, still, those who are in the military or naval service have done and are doing splendid work. In fact, with a few exceptions, the photographic personnel and its efficiency is not so great a problem as that of adequate equipment. Were photographic work in the army and navy confined strictly to war-requirements, those of our good friends who do not believe in reasonable preparedness might, through their representatives in Congress, block any further efforts to give the services adequate photographic equipment. However, I believe that I may say truthfully, that the photographic work being carried on by the army and navy today is doing more for the economic and educational development of the United States than it is to prepare us for war. In short, an instrument of war is being applied to the pursuits of peace, and with splendid results. If this be true, and I think that it is, it would seem that the photographic work of the army and the navy ought not to be limited but rather encouraged by sufficient funds to meet all reasonable requirements. Nothing that I know would increase the morale and efficiency of officers and men to a greater degree than to give them what they need and what they want to carry on good photographic work on land, sea and in the air.

Yes, the Signal Corps is doing something with photography. So are the Engineers and the Military Intelligence branches of the Army. With the personnel and equipment they have, thay are doing creditable work; but it is far from what all could do, and do well, with adequate appropriations. The Air Service is very much in the limelight and its photographic work has received much publicity, well deserved, too. But even the Air Service is lacking in equipment to do its photographic work as it wants to do it. The results of my observations and personal inspection lead me to feel that the country is fully warranted to support and encourage photographic work in the army and the navy. Not as a preparation for war—if that term is objectionable—but as a vital part of our country's development in exploration, mapping, charting and portrayal of scenic beauty. Not only will adequate appropriations make possible such splendid peacetime activities; but we shall develop a trained and veteran officer and enlisted personnel which is active, eager to perfect methods and equipment and happy and contented in its chosen work. Then, should we be so unfortunate as to meet another great emergency, there will be ready a body of men who can very quickly apply their knowledge to the defense of the country.

No, my desire is not to add one cent to the burden of taxation, if it can be avoided; but let us not go to the other extreme and become so miserly that a splendid foundation, built by faithful, loyal officers and men of the army and the navy, shall crumble in the dust. They ask for no millions; but for just enough to enable them to carry on their photographic work effectively, economically and to the credit of the country and the flag they serve.

Let Photographs Bring the Boys Good Cheer

THERE are several thousand men who must needs be away from home and loved ones this Christmas of 1925. To be sure, gifts and messages will be ever so welcome and greatly appreciated; but from my experience nothing quite equals a picture of Mother, Dad, Brother, Sister and the home. Just a little snapshot is the best Christmas-message of all, because it's something that grips the heart as nothing else can.

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LONDON LETTER

CARINE AND WILL CADBY

THE Seventieth Annual Exhibition of the Royal Photographic Society opened on the 14th of September. As most of our readers know, this, the oldest of British shows, is an all-embracing affair, and is divided into three parts. Section I—Pictorial Prints; Section II—Pictorial Lantern-Slides, Color-Transparencies and Prints; Section III—Natural History, Photomicrographs, Radiographs, Astronomical, Aërial and Spectrum Photographs, Stereoscopic Work, Scientific Color-Work, Technical Applications of Photography and Kinematography. A glance at this comprehensive list of subjects will convince the reader that virtually every photographic activity comes under one or other of the heads, and therefore the exhibition's interests are very wide and far reaching.

Room No. 2, which comprises the whole of the first floor, is devoted to Pictorial Photography, and here are shown one hundred and twenty-three pictures, the merits of which seem to us somewhat uneven. But has a critical observer ever visited a pictorial photographic exhibition without being able to point out a number of prints that could, with advantage to the prestige of the show, have been dispensed with? Time was when the present writers went around the chief photographic galleries and found many pictures that, if funds had allowed, would have been acquired. Now their covetousness has almost disappeared: a more critical eye, the result of experience or, possibly, the uniformly high technical level of the work shown, has had this result. But anyway, there seem in this section few outstanding "Paradestücke", little that one would want to possess as a decoration.

To our readers, thousands of miles away, it can be of small interest to minutely describe individual exhibits, and difficult as it is to carry a clear recollection of last year's show in the memory, we feel confident that the present one is not its equal. There are good portraits, good landscapes, and unlike the Salon, very few nudes. Last year we thought the show quite equal to the Salon; but this time it is not so. The ebb and flow of outstandingly good work is inevitable. Two or three prolific photographers *at their best* can raise an exhibition far above the average, and we suppose that, like the fruit-trees, they must have their resting years; but one wishes the recuperative time would be a spell of entire rest instead of producing some small fruit.

But in Section II we received an agreeable shock. Under the heading of Pictorial Color Prints we found what seemed to us the best color-work we have seen. A number of studies by M. Chas. Gollhard, of Geneva, arrested our attention. Year after year, we have been disappointed with the color-prints shown, the tones being generally crude and untrue to Nature, and it seemed as if this printing-medium would never attain success. But M. Gollhard's landscapes are in an entirely different category. He rings the changes from a most striking, dark view on the Lake of Geneva to a delicate, rush-bordered, blue landscape, and admirably expressed snow-work. In the last named picture, photography's accurate drawing of snow-forms is subtly blended with the truthful rendering of the play of color on sun-lighted snow. Besides this, M. Gollhard's compositions are eminently satisfactory.

These pictures are really startling; indeed, they might at a glance by the unphotographic individual certainly be taken for good watercolors. And yet there is something in their quality for better or for worse—according to our point of view—that the cleverest watercolor does not possess, and are undoubtedly one of the most interesting developments of this exhibition. There are altogether twenty-nine color-prints shown, and although some of them are certainly an advance on those seen in other years, none compares in purity of color and composition with the work of M. Gollhard, which is all done either in bromoil or bromoil-transfer. In the same room, there are some good color-transparencies with daylight-illumination, and they no doubt gain in luminosity in consequence.

The other sections have much to attract all kinds of photographers. There are excellent prints of many of the instantaneous theatrical photographs that have appeared from time to time in the *Times*, and these show the quite beautiful quality of many of these negatives that was almost lost in the reproductions. The subjects were of necessity all photographed in a weak light, and form a striking landmark in the steady advance of the speed of emulsions. Then, again, the latest aërial photographs that illustrate the application of photography to archæological research were highly illuminating. In one picture, an ancient village-site could be clearly traced through this summer's growing crops, and another gave the southern part of the earthwork on Hambledon Hall, Dorsetshire, showing an hitherto unsuspected circular earthwork of earlier date. Here and there, in the Scientific and Technical Sections, one came across artistic effects that would not have been out of place in the Pictorial Section, such as many of the wonderful cloud-studies; and under Press Photography there was a delightful view (in profile) of the East Sussex Hounds on Beachy Head, flanked by a glorious sky.

The Natural History Section would have kept any boy absorbed for hours—revealing, as it does, the secrets of bird-and-beast life. On the third floor, a part of the Society's Permanent Collection is shown. It includes a photograph of the Solar Club made by O. G. Rejlander, in 1869, who was one of the fathers of pictorial photography, and the first practical maker of "combination prints".

And yet more exhibitions! The big A. P. M.—in other words the Amalgamated Photographic Manufacturers, Ltd.,—is holding a free exhibition of professional portraiture in important provincial cities. All local professionals are invited to send in four prints each. One of the largest galleries in each town will be hired, and the show is to be boldly and widely advertised. This is a new publicity-movement and extremely advantageous to photographers; who not only get the chance to come in touch with the public and show their work, but have the public drawn to see it by advertising which does not cost them a cent, except, of course, that they must use certain makers' materials.

Surely, 1925 will be remembered as the photographic year. It has been, indeed, a centenary. Even wireless has been called in to play its part, and Marcus Adams has reminded over two million people that

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Photography was born in 1825. His broadcast speech was a model of a great deal of matter packed into a small space; and if his prophesies sounded slightly exaggerated to us when we listened in, we were quite convinced when we read the speech in black and white. Photography will develop along the lines he suggests. And, as he says at the end, Wireless and Photography doubtless saved many millions of lives and did much to win the last war. May it please God that, by their aid, another war will never come.

COMING EXHIBITIONS

DECEMBER 1, 1925. Maryland State-Wide Photographic Competition under the auspices of The Photographic Club of Baltimore City, 105 West Franklin Street, Baltimore, Md. Last day for receiving prints December 1, 1925. This competition is open to any amateur who resides in the state of Maryland, and all members of the Photographic Club of Baltimore. Further particulars may be obtained from The Print Director of the club.

DECEMBER 1 to 31, 1925. Fourth Exhibit of Pictorial Photography. The Southwest Museum and the Southern California Camera Club, Los Angeles, Calif. Last day for receiving entries, November 21, 1925. No entry-fee. Mail prints to Fred R. Dapprich, Chairman Print-Committee, Southwest Museum Los Angeles, Calif.

DECEMBER 19, 1925 to JANUARY 10, 1926, inclusive. First Italian Salon of International Photography, Turin, Italy, under the auspices of the Gruppo Piemontesse per La Fotografica Artistica and of the Societa Fotografica Subalpino at the Galleria Centrale d'Arte, via Pon. 4, Turin. Last day for receiving prints is November 15, 1925.

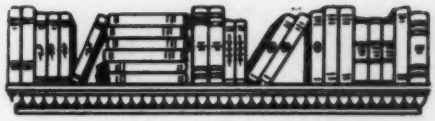
JANUARY 4 to 31, 1926. Ninth International Salon of Photography will be held under the auspices of the Camera Pictorialists of Los Angeles, at the Los Angeles Museum; entry-forms will be mailed, or may be had by writing to N. P. Moerdyke, Secretary of the Camera Pictorialists of Los Angeles, 811 Washington Building, Los Angeles, Calif. Last day for receiving prints December 17, 1925.

JANUARY 16 to 31, 1926. Seventh Annual Salon of Photography will be held in the Albright Art Gallery, Buffalo, N.Y., under the auspices of the Buffalo Camera Club. Last day for receiving prints December 28, 1925. Lester F. Davis, secretary, 463 Elmwood Avenue, Buffalo, N.Y.

MARCH 13 to APRIL 18, 1926. The Annual Pittsburgh Salon of Photographic Art will be held at the Art Galleries of the Carnegie Institute under the auspices of the Photographic Section of the Academy of Science and Art. Last day for receiving prints, Saturday, February 13, 1926. Address all communications to P. F. Squier, secretary, 237 Avenue B, Westinghouse Plan, East Pittsburgh, Pa.

Those Photographic Books for Christmas

FROM the way book-orders are coming in these days it would appear that many of our readers are beginning to realise that good photographic textbooks are worth having and worth giving to friends for Christmas. We urge all those who have not yet taken steps to order books for Christmas-gifts to do so at once. If the matter is delayed, we may not be able to make delivery on time.



BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.

HISTORY OF THREE-COLOR PHOTOGRAPHY, by E. J. Wall, F.C.S., F.R.P.S. 747 pages, 203 diagrams, addenda, list of periodicals and abbreviations, index to patent-numbers, index to proper names, and general index. Price, cloth $15.00. Boston: American Photographic Publishing Company, 1925.

Even a superficial examination of this new book by Prof. E. J. Wall convinces one that it is a monumental work. There is nothing just like it in the photographic literature of the world. It is the result of painstaking research for over a period of thirty years. The work of the leading inventors and experimenters in color-photography has been examined, checked up and presented in detail to the sincere student of photography in color. It is not a book for the superficial reader, nor for him who seeks an easy solution of his problem in this branch of photography. However, for the earnest student, the patent-attorney, the trained laboratory-worker, the manufacturer of sensitised photographic products, the technical educational institution and the scientific library, this splendid work will be found of importance and practical value.

The chapters are devoted to Historical and Theoretical Data, Color-Filters or Color-Screens, Still-Cameras and Chromoscopes, Bi-Packs and Tri-Packs, Optical Data, Color-Sensitive Plates, Color-Sensitive Gelatin-Plates, Testing Color-Sensitive Plates, Desensitising Plates, Color-Sensitive Photometric Papers-Sensitising Dyes, Subtractive Processes, Three-Color Transparencies and Lantern-Slides, Screen Plates, Historical and Theoretical Data, Screen-Plate Patents, Screen-Plate Practice, Printing from Screen-Plates, Stereoscopic Pictures with Autochromes, Supplementary Notes on Screen-Plates, Kinematography in Colors, Additive Processes, Dichromate Printing, Double-Coated Stock and The Prismatic Dispersion and Allied Processes.

The volume is carefully printed, serviceably bound in cloth and well written. No expense has been spared to make it exactly what it is—a splended contribution to the advancement and study of color-photography.

THE YEAR'S PHOTOGRAPHY: An Illustrated Review of the 1925 Exhibition of The Royal Photographic Society, London, with other papers of unusual interest. 106 pages and 85 illustrations. Price, paper-covers 75 cents. Postage 10 cents, New York: Tennant and Ward, American Agents.

Those of our readers who desire a very interesting and profitable survey of the year's photographic work will find in this little volume a delightful evening's reading. In addition to an excellent selection of illustrations, which may well be studied to advantage, there are a number of splendid papers by such well-known workers as T. Thorne Baker, H. D'Arcy Power, A. J. Newton, F. C. Tilney, Fred Judge, J. Dudley Johnston, and others. The typography of the book and the reproductions are excellent. "The Year's Photography" merits a permanent place in every photographic library.

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HERE, THERE AND EVERYWHERE

To ensure publication, announcements and reports should be sent in not later than the 5th of the preceding month.

Associated Camera Clubs of America Elect New Officers

THE Associated Camera Clubs of America have elected the following men to serve for the succeeding two years: president, Mr. Louis F. Bucher, Newark, N.J.; vice-president, Mr. E. H. Brown, Dallas, Texas; secretary, Mr. W. C. Mackintosh, San Francisco, California; treasurer, Mr. H. W. Greene, Cincinnati, Ohio.

The following six men were elected to serve on the Board of Directors: Mr. Julius Cindrich, Los Angeles, California; Mr. George W. Harting, New York, N.Y.; Mr. E. Roy Monroe, Portland, Maine; Mr. H. G. Cleveland, Cleveland, Ohio; Mr. John H. Kiem, Orange, New Jersey; and Mr. Paul T. Tarnoski, Chicago, Illinois.

Mr. Julius Cindrich, who served so ably last year as print-director, has been reappointed in the same capacity.

Two additional members have been obtained, bringing the total membership of the Associated Camera Clubs of America to thirty-five—more than half of the camera clubs of this country. The new clubs are: Camera Club of the Syracuse Y. M. C. A., 334 Mortgomery Street, Syracuse, N.Y., Kent C. Haven, president; J. O. Sprague, secretary; Omaha Camera Club, 316 Y. M. C. A. Building, Omaha, Nebraska, J. E. Brill, president; William F. Murden, secretary.

The annual interchange of the Associated Camera Clubs of America is now under way. By means of this interchange each member-club of the A. C. C. A. is enabled to see the best work of the other clubs. The interchange has been one of the features of the A. C. C. A. since its founding. Many of the clubs on the circuits exhibit the interchange-sets to the public in their respective cities, thus bringing pictorial photographic art before the layman.

Another feature of the A. C. C. A. is the assistance rendered in organising new camera clubs. Advice, instructions and other helps are freely given to new clubs. The A. C. C. A. is a non-profit organisation developed for the mutual benefit of the member-clubs and for the advancement of photographic art.

E. H. BROWN,
Vice-president A. C. C. A.

Australian Salon of Photoplay, 1926

THE Second International Exhibition of Pictorial Photography will be held in Sydney from June 7 to 19, 1926. The last day for receiving pictures will be the 3d of May, 1926. Conditions governing the salon will be the same as last year and entry-forms containing full particulars will be sent to anyone interested. Copies will be sent, without further request, to all who submitted pictures for the 1924 salon.

Pictures from overseas must not be framed but may be mounted or unmounted. Unmounted or partially mounted pictures will be mounted in Sydney and all will be shown under glass and, more than likely, as on the previous occasion, each picture will be in a frame.

Certain particulars are required by the customs authorities in Australia which are indicated on the entry-form. Pictures, whether for sale or not, will not be passed by the customs unless they have a value on them. Each entry-form must be accompanied by a Money Order value Five Shillings to cover Entry-Fee, expenses of salon, repacking and return postage on pictures. As there will be no charge for admission to the salon or for catalog, a commission will be charged on all sales effected. Each contributor need only send the five shillings which covers any number of pictures and should not send money to pay the duty. A copy of the catalog will be sent to everyone who submits prints. The catalog for this salon will not be illustrated as *Cameragraphs* will again be issued.

Entry-forms, as mentioned, will be posted at an early date; but anyone unable to obtain a copy need only have page three of entry-form copied. The secretary is Mr. J. G. McColl, F.C.P.A., Box 298 F., G.P.O., Sydney, N.S.W., Australia.

Seattle Camera Club

AT a recent meeting of the Seattle Camera Club, Seattle, Wash., the following officers were elected: chairman, Dr. K. Koike; vice-chairman, F. A. Kunishige; executive secretaries, R. C. Weston and Y. T. Iwasaki; exhibition-committee, R. M. Lewis; H. Kira; H. Onishi; Y. Morinaga and Dr. Koike. As our readers may have noted, this new camera club is making a name for itself and we wish it continued success and prosperity.

A Tribute to B. F. Langland

AFTER many years of loving devotion to pictorial photography, Mr. B. F. Langland, of Milwaukee, Wis., has been called from us to the great beyond. Death came to him on September 26, 1925, following an operation; and, in his going, amateur photography in its very highest sense has lost a true and valiant worker for its improvement and success. He and his works are known from coast to coast, and his work throughout his many years of devotion to the art has always taken first rank with the pictorial workers of the time.

The Milwaukee Camera Club, of which he was a leading member, has sustained in his death a serious loss and each individual member, because of his genial and helpful manner, a very personal loss.

His quiet manner, pleasing personality and general personal helpfulness to each individual member created in each an esteem and affection for him that will "Ever keep his memory green." On Wednesday evening October 14 a Memorial Meeting was held in his memory at the club's new quarters in The Milwaukee Art Institute, and it was largely attended. At this time the following lines of appreciation were read by one of his oldest photographic friends.

"We are together tonight to fill, as best we can with our meagre tribute, the vacant place of one who has passed from us into The Great Mystery. Once more it is brought closely to our thoughts, 'Today knoweth

not what the morrow may bring forth.' The relentless hand of Fate has reached into our midst and beckoned one of our brothers to 'Come' with an authority that could not be denied. With shocking suddenness Ben Langland was taken from us, in the very fullness of life and hope and happiness with years of usefulness, enjoyment and achievement before him. None of us can realise what this means to us individually or collectively, nor can we estimate the loss that we have sustained. We grope about in the darkness and cannot know why it is—but through the darkness about us there gleams a ray of light and there shine out, clearly and distinctly across the darkened way, pleasant memories and helpful hours spent with him—the great thing he has given to us all.

"For upwards of twenty years I was so fortunate as to be closely associated with him. We were brought together by the same tie that drew him to you, the same tie that is now holding us together; and from that first meeting an acquaintance sprang up between us which, as the years went on, ripened into a closer and closer friendship that brought us frequently together, from which was born the great esteem and affection I have always had for him. We have motored, camped, canoed and photographed together a large part of our beautiful state, and it was from this close association with him that I learned the true bigness of the man.

"He loved the great outdoors—nature as God gave it to us. He was loyal to his ideals and his ideals were of the highest. He loved the truth, and lived a life true to himself and those most dear to him. He was ever striving to make the accomplishments of the morrow greater than those of today. He gladly gave of his great store of knowledge whatever he could to help each one along. His advice was always good, his opinions always sound, his criticisms always constructive and his praise always deserved. He was a helper to us all and one who always incited us to higher and better things.

"In the record of my own life, his name is beautifully graven on page after page and it is my great pleasure to say to you tonight that as I scan the many pages of that record wherever the name of Ben Langland appears, only the most pleasant and brightest memories are awakened and brought into life and they will always remain with me and will be called into being again and again as the years roll on and I look in retrospect upon the past. That is my great heritage from him.

"One little circumstance has been much in my mind since he left us; and it has given to me the thought of his going that I wish always to carry with me. We were together, with a number of others, in the country making pictures. We would all be together for a time and again widely separated—one working here, another there. Several of us, among whom was Mr. Langland had been together studying a certain subject. Soon I looked about and he was not with us. I asked where he had gone and some one answered, 'He has just gone over the hill'. That is the thought I want to keep of his passing on. I will not let the thought that he will never return come to my mind. I shall always think of him as close at hand 'Just over the hill.'"

Toronto Camera Club

THE annual general meeting and election of officers of The Toronto Camera Club was held at the club-rooms, 2 Gould Street, Toronto, on October 19, and the following officers were elected for the coming year:

Honorary president, Ernest Hoch; past president, J. H. Mackay; president, Alfred Brigden; 1st vice-president, M. O. Hammond; 2nd vice-president G. R. Smith; secretary, L. H. Fletemeyer; and treasurer, E. J. Long; directors, A. R. Blackburn, S. C. DeWitt, A. E. Cuthbertson, A. T. Roberts, and A. R. Duff; Representative to Canadian National Exhibition, A. R. Blackburn; Representative to Ontario College of Art, H. J. Fairhead.

The past year showed varied and important activities in the club, there having been seven monthly member's print-competitions; one Club Salon at the Toronto Art Gallery, in May, and one International Salon at the Canadian National Exhibition in September. Both salons attracted a large attendance of the public. An ambitious program is being planned for the coming season.

This Club is one of the oldest in America, having been organised in 1887, and is affiliated with the Royal Photographic Society of Great Britain.

Dallas Camera Club at Art Center

AFTER two years at 1707½ Elm Street, Dallas, the camera club of that city has removed to the Associated Arts and Crafts Center of Dallas, Texas, 1907 Main Street. At its new location the club is provided with a large auditorium for the display of its own work and of traveling-exhibitions. The walls are covered with neutral-toned burlap, suitable for the proper display of pictures. Overhead lights are provided for proper illumination and the first prize picture of the club's monthly competitions will be displayed in a well-lighted inset frame lined with black velvet. Pianos are also furnished for informal dances, and there are ample seating-facilities to take care of visitors. The club meets on the first and third Tuesdays of each month, and out-of-town visitors are always welcome.

The club is planning to hold monthly exhibitions of pictorial photography, open to the public. The first of this series will be the Annual Exhibition of the club, held November 3. For this exhibition $50 in prizes was offered by one of the Dallas newspapers.

The Associated Arts and Crafts Center of Dallas is modeled after the Art Center of New York. A number of the arts and crafts clubs of Dallas have already moved to this new location and it is hoped eventually to include all the art-associations of that city. Each club pays a pro rata proportion of the expense.

A permanent display of paintings is one of the features of the Associated Arts and Crafts Center, and a number of America's leading artists have pictures in this display.

Facts About Underwood & Underwood, Inc.

A NUMBER of our readers have been interested in knowing something about the well-known firm of Underwood & Underwood, Inc., 242 West 55th Street, New York City. The reason is that this firm offers a number of opportunities to the capable amateur and professional photographer and because this large organisation is a striking proof of the importance of photography in the social and industrial life of the world.

Underwood & Underwood, Inc. is the largest of the photographic institutions. For more than forty years the name, itself, has been almost synonymous with photography in the minds of the people of the country. Steady and consistent growth has resulted in a service which today covers the entire range of photography.

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This included the furnishing of news-pictures to publications both in this country and abroad. The portrait-studios of this firm have photographed the leaders in the business, governmental and social life of this country for two generations. It has been a pioneer in aërial photography and has established a position of leadership in this comparatively new field.

Advertising-illustrations are handled by a separate division which includes the making of still-life, fashions and advertising-illustrations. A complete building-department is maintained in the Illustration Studios where any scenic effect, indoor or outdoor, simple or complicated, representing any type of locality may be constructed. Illustrations are made in direct full color as well as in black and white. Virtually everything that may be photographed in black and white may also be made in color. The company controls an exclusive process of reproduction for color-negatives that is being used by a considerable number of national advertisers. Lejaren A. Hiller, one of the foremost of the illustrators, is the Director of the Illustration Studios.

Affiliated with Underwood & Underwood, Inc. is the Elliott Service Company, largest producer of photographic advertising. This company manufactures several types of window-display services, all built around news or specially posed series of photographs.

A complete department for the creation and production of industrial motion-pictures is maintained under the direction of Mr. David Pincus and Mr. Joseph Rothman. Everything is handled from one reel of a street-parade to a six or seven-reel feature-picture for legitimate theatrical distribution. Underwood & Underwood motion-pictures are, so far as we know, the only films that have won national distribution from the legitimate motion-picture houses throughout the country.

Staff-photographers operate out of the larger cities and correspondent photographers are situated in virtually every community. Further particulars may be obtained by writing direct to Mr. H. H. Raege of the service department.

"Aint It the Truth?"

NEVER a verse I wrote but brought
Such kindly words as ne'er bethought:
Never a bit of prose I've writ
But somewhere made its little hit.

And never a verse but someone leered
In mocking me with words that sneered.
So all the prose I ever wrote
Is bad to some, I sadly note.

Thus I am rotten, I am great,
The dear and loving public state.
In desperation I decide
To write and let opinion ride.

If we permit what others say
To govern us in every way
Our useful years should be outrun
With naught attempted, nothing done.

Let's pray for wisdom and for strength
To do what's best so that at length
When life is ebbing we can say,
"I've done a little in my day."

SIGISMUND BLUMANN.

A Good Wide-Angle Photograph

MORE than three thousand persons recently attended the dedicatory services of the new $3,000,000 fourteen story church-store-office building in Rochester, N.Y., a city of more than 300,000 population. The new building is situated in the very heart of the down-town business section, and is one of the few buildings of its kind in the country.

This is the photograph that the church-authorities have decided to use in all future publicity, which will be nation-wide in scope. The photograph was made by the Rochester Camera Exchange with a Bausch & Lomb Series V 8 x 10 extreme wide-angle Protar lens. We reproduce this picture to make clear to our readers that a good wide-angle lens is a necessity for the industrial photographer in handling such subjects.

What Do You Do with your Old Photographic Magazines?

THERE are many people that subscribe to one or more photographic journals regularly. But what happens to these magazines after they have been read? I should say that most of them are thrown away; others are put into a disorderly pile for future reference, and a very few are preserved for binding at the end of the year.

It often happens that an article read today, and forgotten tomorrow, will prove very useful as time goes on, and the person who throws away his magazines will be confronted by perplexing problems later on—all of which could be avoided had the magazines been preserved. Making a pile of the old magazines will not do; for besides taking up a lot of room, they are not easily accessible, especially if the issue wanted happens to be at the bottom of the pile. So the best way is to preserve each issue and have the year's volume bound by a professional bookbinder, although the binding may be done at home. But for a lasting and permanent volume, nothing can compare with the "bought" binding.

It is a pleasure to preserve the magazines which will prove to be of great value; for each issue is a veritable source of photographic knowledge, which may not be useful when being read, but will be so in time—if the reader continues in his photographic efforts. At any rate, it is best to have the knowledge within arm's reach when wanted—which it never is, unless the issues are bound.

It is a question whether or not the covers and advertising-matter should be removed before binding; but it may be said in favor of removing these pages, that the yearly volume will be thinner and, incidentally, not so costly to bind. This, however, is a matter to be decided by the individual.

After collecting the issues to be bound, place them, one upon another in order of their dates. Then be sure to get a contents-list from the publisher, and place it either in the front or back of the volume, as desired. This is an important part of the volume, as it makes it very easy to find just what article or picture may be wanted. (PHOTO-ERA MAGAZINE issues such a list with each June and December number, so it may not be necessary to write for it.)

It will be found that bound issues of photographic journals will give continued pleasure to anyone photographically inclined—besides being an authority on the art. The average reader does not realise the amount of actual knowledge stored away in such issues—until some authority is wanted to settle a dispute; then it will be found highly useful; for nearly everything is contained in bound volumes, and the more you have of them, the more knowledge is at your disposal—if you take advantage of it. Or, a special formula or method is desired; simply look up the contents-lists of the volumes, and you have it at a moment's notice.

So, if you haven't been in the habit of binding your magazines, begin now by subscribing to your favorites, and thereby ensuring yourself of getting every issue—for that is necessary—and then enjoy watching your photographic library grow. You will come to realise that such volumes are worthy to be placed on your bookshelf, among your best and most thought-of books. And in this case the old saying is very true: "A thing of beauty—and usefulness—is a joy forever."

KARL A. BARLEBEN, JR.

New Catalog Issued by Burke & James

WE have examined the new catalog recently issued by Burke & James of Chicago and believe that it will be of interest and value to our readers. It is very complete, lists apparatus and accessories of the latest types and models, and contains much practical information. We are confident that this new catalog will be well received and serve to make Burke & James better known to those who are just entering the professional field.

Questionable Ethics

A YOUNG artist of doubtful talent was visited in his studio by a wealthy merchant. After looking at a number of pictures, the business-man said: "Young man, do you sell many of these pictures?" "Yes," the artist replied, untruthfully, thinking that at last he was about to sell a picture. "Well," said the merchant, "if you will come down to my office, I will give you a well-paid job. For years I have been looking for a salesman like you."

Retail Selling.

A December Revery

THE white-haired, ruddy skinned, portly old gentleman seated in the big armchair held a newspaper in his hand. "Four hundred million Christmas-seals sold in the United States," he read. Deeply absorbed, he finished it. Then he laid the paper on the table beside him, and looked out at the winter-landscape. Once or twice he nodded thoughtfully, and a gentle smile deepened the grooves in the corners of his mouth and spread over all his benign countenance.

The old gentleman's thoughts sped back to a December twenty-one years ago, when a lonely little batch of bright-colored Christmas-seals lay practically unnoticed on a postoffice counter in Denmark. He, Einar Holboell, then an obscure clerk in the little postoffice, had conceived the idea of printing a "Christmas-stamp" to be pasted on Christmas-mail, as a means of raising a few thousand dollars for the construction of a hospital for tuberculous children. So perfectly did the little stickers fulfill their mission that the news spread over the country, and, when Jacob Riis, one of the foremost of America's social service workers, came for a short visit to his mother-country, he heard of the great success of the new idea.

He wrote an enthusiastic story for the *Outlook* on the success of the new Christmas-seal, and Miss Emily Bissell of Wilmington, Delaware, read the article. She decided that if seals could raise money for tuberculosis work in Denmark, they could perhaps do the same in America. And, sure enough, she was able to sell 300,000 seals. From the proceeds, the site was purchased for the first sanatorium in her state.

But the work of the little penny stickers had just begun. From 1908 to 1919 the American Red Cross sponsored the seal-sale, which spread more and more rapidly every year. During that time it bore the organisation's familiar square-armed cross. In 1919 the National Tuberculosis Association and its affiliated organisations conducted the sale.

Last year three of the largest printing-plants in the United States worked for months to the exclusion of all other orders to turn out 1,250,000,000 seals! Approximately $4,500,000 was raised from the sale of these little carriers of good health. With the money tuberculosis sanatoria, hospitals, clinics, dispensaries, public health nurses, open-air schools and preventoria have been financed. Literally millions of copies of educational printed matter dealing with tuberculosis and general disease prevention have carried the message of good health into American homes. The Modern Health Crusade, probably the largest health education movement in the world, has taught more than 8,000,000 boys and girls daily habits of cleanliness, diet, rest and exercise that will develop robust men and women.

In the little town in faraway Denmark, the old gentleman seated in the big armchair dropped his white head against the upholstered back. A look of smiling contentment and peace settled over his ruddy, cheerful face. He looked so like a personification of Santa Claus that, instinctively, one glanced about the room for the big bag of toys and looked outside the window for his faithful reindeer. But Einar Holboell merely settled himself more comfortably and sighed happily. "After all," he reflected, "it is not given to many of us poor mortals to have their simple ideas result in so much joy to humanity." For a moment he gazed out of the window. Then he shut his eyes and folded his hands in his lap. And so Santa Claus sat dozing, secure in the knowledge that the children of the world would have a merry Christmas.

HELENA LORENZ WILLIAMS.

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THE PUBLISHER'S CORNER

A Merry Christmas and a Happy New Year to You All

THIS is the time of year when I feel eager to grasp the hand of every reader and try to convey my sincere wish for a Merry Christmas and a Happy New Year. I know that some hold the idea that being up here on the shores of beautiful Lake Winnipesaukee, in the foothills of the White Mountains of New Hampshire and far away from the rush and activities of a great city I am out of touch, perhaps, with the world at large. Far from it! It is true that I may not be able to call personally on many good friends and readers, but thanks to the radio, the telephone and a large correspondence I am in close touch with things photographic and otherwise. Moreover, I believe that the beauty of the hills and of the lake gives me a glimpse of the deeper, more spiritual realities of life than may be obtained from a city-street or city-crowds. At any rate, mine is the fresh air of the hills, the smell of pines, the song of birds, the glory of the autumnal foliage and the dazzling expanse of snow-covered fields and woodlands. Yes, I do visit the city occasionally; but with all its attractions and many friends, the hills call to me, and among them is a peace and happiness I have found nowhere else. Therefore, my sincere wish to you all is that some of the peace and beauty of the hills may be with you this Christmas-season and that during the coming year it may give you health, happiness and prosperity.

We are Coming Out Strongly for the Beginner

AGAIN let me say that the future of photography rests with the training and enthusiasm of the beginners. In the January, 1926, issue we are going to make a sincere attempt to get every beginner really interested and make it worth his while *to stay interested*. How are we going to do it? Well, we have several ideas about that which we are going to give a trial. What is more, our program will be very elastic, informal and simple. However, throughout our efforts, the first consideration will be to make every beginner feel that our best is always at his service. We wish him to know the sincerity of our desire to help him enjoy his photographic work and that no question is too elementary for him to ask. In short, we are not going to be a bit "highbrow" about this Beginners' Department. Let us make it a friendly, happy exchange of ideas, practical suggestions and mutually helpful correspondence. Let every beginner feel now that he is heartily welcome and that he is fully appreciated.

The Race for the Photo-Era Trophy-Cup

THE starting-shot of the race to win the PHOTO-ERA Trophy Cup was fired at the end of the competitions which ended September 30, 1925. Members of several of the leading camera clubs entered prints and we have assurances of more coming very soon. However, let it not be forgotten that there is much in the old adage about the early bird catching the worm In this case the Seattle Camera Club is the early bird and has scored against all the other camera clubs in the country by winning one point. The picture, "The Setting Sun", by R. Sawaji, member of the Seattle Camera Club, Seattle, Washington, won second prize in the Beginners' Competition, and his club has the honor of winning the first point in the race.

Let me repeat that it is very important that camera-club members, who wish their clubs to receive credit for prizes won, must state on data-blanks and prints the name of the club of which they are a member. There are no special rules or regulations. The same rules apply for the Trophy-Cup race as for our regular competitions. Those of you who have put the matter off are advised to act quickly, unless you wish our friends of the Seattle Camera Club to have things all their own way. Let us stir up a bit of friendly rivalry; there is still plenty of opportunity for those who are really interested in photography.

Last Call for December Renewals

SOME reader will probably venture to remind me that I have said enough about this matter of renewing subscriptions and subscribers entering new subscriptions for their friends. Perhaps I have; and, if so, I stand corrected. However, if all my readers could realise how much easier and happier it makes this season of the year to have subscribers renew promptly, I am very sure that each one would see to it without delay. Incidentally, I might add that to enter a subscription properly and accurately requires that each one be handled no less than five times from the moment that it is recorded on the ledger until a stencil for the addressing-machine is ready. By sending in renewals now, the work is spread over a longer period and our office-force is enabled to work to better advantage. And don't forget that a subscription is really a very acceptable Christmas-gift to a friend who owns and uses a camera.

Where Are the Stereophotographers?

ABOUT a year ago there seemed to be a demand for a department devoted to stereophotography. It was with pleasure and anticipation that such a department was included in PHOTO-ERA MAGAZINE. Assurances were given by a reasonably large number of readers that such a department would be welcome and that they would support it with material and suggestions. For a time there seemed to be considerable interest in the venture; but during the past few months it has been a difficult matter to get any response from those who seemed to be enthusiastic stereo-workers. To be sure, death has claimed several who were consistent contributors; but what has become of the others? Yes, they write to me frequently, enter prints in our competitions and appear to be very much interested in photography and in the magazine; but they seem to have little to say about stereophotography. As stated a number of times, it is neither rendering a service nor profitable to continue a department in which there is little, if any, interest. Where are the stereophotographers?

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